The Effect of Teacher-Mediated Vocabulary Discussions During Read Alouds

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Abstract

This action research study utilized a quasi-experimental pre-/post-test design to examine effect of teacher-mediated vocabulary discussions during read alouds. Fourteen second grade students participated in teacher-led discussions of new vocabulary in the context of the text and their lives. They discussed examples, non-examples, and synonyms for the targeted vocabulary. Fifteen comparison group students were incidentally exposed to the words during read alouds. Data sources included a pre/post-test multiple choice vocabulary assessment, open-ended vocabulary assessment, and researcher log. The intervention group's mean gain vocabulary scores were significantly higher than the comparison group's scores which ultimately have a positive impact on their reading comprehension indicating success of the intervention. Furthermore, the intervention showed positive results for students regardless of assessed reading ability levels.

Keywords: vocabulary achievement, read alouds, discussion, elementary, grade two

Introduction

Limited vocabulary hampers students' reading comprehension, particularly those students characterized by low socioeconomic status (SES). Many low SES students enter school woefully behind their more advantaged peers; by the end of second grade, a gap of up to 2000 words (roughly equal to two grade levels) may exist. In the absence of quality vocabulary instruction in the primary grades, students entering fourth grade will likely experience difficulties with reading comprehension due to their lack of word knowledge (Biemiller & Boote, 2006).

Beck and McKeown (2006) promote the use of trade books (books with narrative and informational content as opposed to text books) as rich sources for new vocabulary and conversations about words to enhance word knowledge. Thus, teacher-mediated vocabulary discussions during classroom read alouds (sharing a book with a group or whole class by reading it aloud) is a practice that may prove useful in helping primary school students build more robust vocabularies, thus enhancing their reading

comprehension. The purpose of this paper is to present the results of a teacher action research study that examined the following question: "How is vocabulary acquisition impacted when second grade students participate in teacher-mediated vocabulary discussions during read alouds?"

Literature Review

Much research exists supporting the practice of teaching vocabulary to primary school students through teacher read alouds. Beck and McKeown (2007) assert that read alouds are effective in building more advanced vocabulary in elementary school children because books that are typically read aloud in classrooms "present more complex structures and more advanced vocabulary" (p. 252) than books that are within the independent reading levels of these students. Furthermore, according to Kindle (2014), read aloud books that are above the independent reading levels of primary grade students can be useful in filling in vocabulary gaps because they expose students to "book language, which is rich in unusual words and descriptive language" (p. 202). Therefore, read alouds are ripe opportunities to help primary school students acquire new vocabulary.

Within the read aloud format, repeated readings of the same text have been found to be effective for vocabulary acquisition because they help students gain a more thorough understanding of word meanings (Biemiller & Boote, 2006; Blacowicz & Fisher, 2011). Likewise, Kindle (2014) asserts that repeated readings help students because they support the movement of word knowledge from fast mapping to extended mapping. In fast mapping, students typically understand "only a general sense of the word" (p.203), but through repeated exposures (i.e., discussions in and out of the context of a book) to the new word, a definition can be "revised and refined to reflect new information" (p. 203) that leads to a more complete understanding of the new word (extended mapping)

Research has also been conducted to determine how many readings of a text result in optimal vocabulary acquisition. Brabham and Lynch-Brown (2002) found that three consecutive days of the same read aloud was effective in producing gains in vocabulary knowledge among first and third grade students. Biemiller and Boote (2006) found that four readings produced the most vocabulary knowledge for kindergarten and first grade students, but the researchers cautioned that four readings might become tedious for second graders.

Another finding from research on vocabulary acquisition points to the importance of direct teaching. According to Mixan (2013), even though much vocabulary growth occurs in children incidentally, incidental learning cannot be the only way that teachers expect students to acquire new vocabulary. Students need to learn new words in the context of reading, but that they also need to make connections with words and have repeated exposures to them in and out of context (Blachowicz & Fisher, 2011; Harris, Golinkoff & Hirsh-Pasek, 2010; Kucan, 2012; Mixan, 2013).

Teacher and student interactions and discussions of vocabulary are more effective than students simply passively listening to teachers read (Kindle, 2014; Beck & McKeown, 2007). Beck and McKeown (2007) studied a method that they termed Text Talk, in which teachers and students engaged in discussions of new words in and out of the context of the read aloud. The teacher also gave students a simple definition of the new words. This is a method that Kindle (2014) terms adult mediated instruction in which teachers "weave in questions and comments as they read, creating conversation between the children, the text and the teacher" (p. 203). Research by Harris et al. (2010) further supports that dialogic teaching characterized by teachers questioning and prompting of students to expand on their responses results in increased vocabulary acquisition.

Lastly, research reveals the importance of purposeful selection of appropriate words for study. Beck and McKeown (2007) assert that words are grouped into three tiers, and that teachers should target words in Tier Two for direct instruction. Tier Two words are the words that students are "likely to encounter in many texts, but are unlikely to be exposed to in everyday contexts" (p. 363). They are typically more sophisticated words for concepts that students already understand. For example, most primary school students understand the word "shy." However, they may not have been exposed to such words as "timid" or "bashful." As they grow as readers, though, they are likely to encounter those words.

In summary, students can show gains in vocabulary knowledge through read aloud instruction when teachers facilitate interactive discussions of the targeted vocabulary before, during and after the read aloud. This allows students to discuss the new word in the context of the reading as well as in other contexts. To enhance students' understanding of the new words and to help them internalize the meanings, multiple readings (i.e., up to three or four depending on age) of the same text are necessary. Furthermore, to maximize the utility of the words being taught, teachers must ensure that words being studied can be classified as Tier Two words.

Methodology

This action research study employed a quasi-experimental pretest-posttest comparison group design. See Figure 1 for a description of the research variables and data collected. The independent variable consisted of the type of vocabulary instruction to which students were exposed and was characterized by two levels: 1) teacher-mediated vocabulary discussion during whole class read alouds and 2) incidental vocabulary acquisition (i.e., comparison group). Students in the intervention group experienced teacher-mediated vocabulary discussions within whole group teacher read alouds. For example, one of the words studied was gleaming. On day one, students were asked to only define and discuss how the word was used in the context of the book. On day two students were asked to think about how the word gleaming could be used in the context of their lives. They shared with each other and then shared with the whole group. They talked about the sun gleaming off the playground equipment or stars gleaming in the night sky. On the third day of the intervention, students were asked to generate examples and non-examples of gleaming. The sun was an example of gleaming and a shadow was a non-example.

Students in the comparison group experienced incidental acquisition, though whole group read alouds with the same books, but without discussions of the targeted vocabulary.

The dependent variable, vocabulary acquisition, was operationally defined as the score on a multiple-choice assessment and a vocabulary self-assessment. The researcher-developed multiple-choice assessment of the targeted vocabulary required students to choose the correct definition from among four choices (Appendix B). The researcher-developed vocabulary self-assessment required students to produce a definition, an example and a non-example of each targeted word. Additionally, they rated their confidence with word meanings, examples, and non-examples.

Independent Variable: Type of Vocabulary Instruction				
	Intervention Group: Teacher- mediated vocabulary Discussions	Comparison Group: Incidental Acquisition		
Dependent Variable: Vocabulary Acquisition	 Multiple Choice Assessment of Word Knowledge Open Ended Vocabulary Test Researcher Log Observations 	1. Multiple Choice Assessment of Word Knowledge (The open ended vocabulary test was not administered to the comparison group because it assessed skills, generating examples, non-examples and synonyms, that were specifically taught to the experimental group as part of the intervention.)		

Figure 1: Variables and Data Sources

Participants and Setting

This action research study was conducted at a rural kindergarten through fifth grade school that served approximately 485 students in southeastern North Carolina. Approximately 60 percent of the school population was Caucasian, 20 percent was African American, and 20 percent was Hispanic. This school is a Title I school, which means that more than 40% of its students receive free or reduced price lunch. This qualifies this school as low SES. At the time of data collection, the school appeared on the list of Focus Schools published by the North Carolina Department of Public Instruction (2012). A Focus School has achievement gaps between in school sub-groups that are larger than the state's average achievement gaps.

There were 14 second grade students in the experimental classroom. Students' middle of the year DIBELS Next composite scores ranged from 123 - 365 (Table 1). According to Dynamic Measurement Group, Inc. (2010), to be considered on grade level, a second grade student should have a middle of the year composite score of at least 190 According to the Total Reading Comprehension (TRC) assessment in Reading 3D, these students'

guided reading instructional levels ranged from level E to level N. To be considered on grade level, a second grade student should have a middle of the year TRC level of L. There were 15 students in the comparison classroom. Students' middle of the year DIBELS Next composite scores ranged from 47 - 407. According to the Total Reading Comprehension (TRC) assessment in Reading 3D, students' guided reading instructional levels ranged from level E to level S.

Table 1. Groups Assessed Ability Score Ranges

Classroom	DIBELS Nex	t Total Reading Comprehension		
	Composite Scores	Assessment in Reading 3D Levels		
Group 1 (Experimental Classroom)	123-365	E-N		
Group 2 (Comparison Classroom)	47-407	E-S		

The researcher for this project has twenty years of teaching experience, a Bachelor's of Arts in English Education, and is certified to teach English Language Arts in grades six through twelve. For the last three years, she has served as a reading interventionist and is the district Parent Engagement Coordinator. She was not the teacher of record for either the experimental or the comparison group. Mrs. Johnson (pseudonyms used throughout for classroom teacher and students) was the teacher of record for the experimental group. She had 11 years of teaching experience and this was her first year teaching second grade. Mrs. Louis was the teacher of record for the comparison group. She had 20 years of teaching experience and this was her second year teaching second grade.

Intervention

The teaching intervention occurred three consecutive days per week for six weeks. Each week's discussion focused on words selected from one trade book that was read to the class. Each week highlighted a different book, for a total of six books during the intervention. The amount and type of discussion varied from days one through three; however, all days 'discussions lasted between twenty and twenty-five minutes. Kucan's (2012) guidelines for choosing Tier two words were utilized to select targeted vocabulary words. This research focused on words that primary school students do not ordinarily use, words to which they can form a connection, and words they are likely to see again in other contexts and contents (i.e. science or social studies textbooks). Harris et al. (2010) found that children more effectively acquire new vocabulary if words to be learned are grouped into integrated categories (i.e. words that convey feelings, words that are adjectives), so care was taken to assure that students were able to see how the new words were connected to each other. A list of the books that were read and words that were targeted in each book can be found in Appendix A.

On the first day of each week, the text was read aloud and students participated in discussion of three targeted vocabulary words within the context of the book. As recommended by Harris et al. (2010), they were provided with a student friendly definition and then listened for the words as the text was read aloud. The teacher then engaged

the students in a discussion of how the definition was used in the context of the text. At the close of the read aloud on day one, students were asked to review the target vocabulary words and how they were used in the book. On the second day of each week, the text was read again and discussion focused on connections between targeted vocabulary and students' lives (as proposed by Fisher & Frey, 2012; Harris et al., 2010). The third day was characterized by discussion of the targeted vocabulary words beyond the text and students. They made connections to words and generated examples, non-examples, and synonyms (as suggested by Blachowicz & Fisher, 2011; Harris, Golinkoff & Hirsh-Pasek, 2010; Kucan, 2012; Mixan, 2013). This information was recorded on a three column chart (see Figure 2) and was posted in the room throughout the duration of the six week intervention as Kucan (2012) recommends.

Targeted Word		
Examples	Non-examples	Synonyms

Figure 2: Three Column Chart

Data Sources and Analysis

Three sources of data were collected for this study: a multiple-choice vocabulary test, an open-ended vocabulary assessment, and a researcher log in which the researcher recorded observations and reflections for the duration of the intervention. Students in both groups were given the multiple choice vocabulary assessment before and after the intervention (see Appendix B). An independent sample t-test was used to determine the difference in the mean gain scores. An open-ended vocabulary assessment, modified from Fisher and Frey (2012), was administered to intervention group students (see Appendix C). Students generated definitions, examples, and non-examples of the targeted words. They also rated their confidence in their responses between zero and three (with three being the most confident and zero being the least). The open-ended vocabulary assessment scores were computed separately for each task and a mean gain pre-assessment and post-assessment score was calculated. Lastly, observations and reflections were recorded in a researcher log and analyzed for observed trends in learning behaviors. The researcher log was printed and reviewed to develop codes (i.e. behaviors related to student engagement, behaviors that demonstrated the instructional validity of repeated readings) related to the research question. Codes were then collapsed and themes identified. Themes noted for discussion included observed attitudes toward the read aloud activities, enthusiasm for word study, enthusiasm for discussing words in and out of the context of the books, and student difficulty with producing non-examples during class discussions.

Findings and Results

At the close of this study, the results from the multiple choice pre-and post-vocabulary assessment were compared. The experimental group (n = 14) demonstrated a mean gain of nine words. The comparison group (n = 15) demonstrated a mean gain of 3.93 words (See Figure 3).

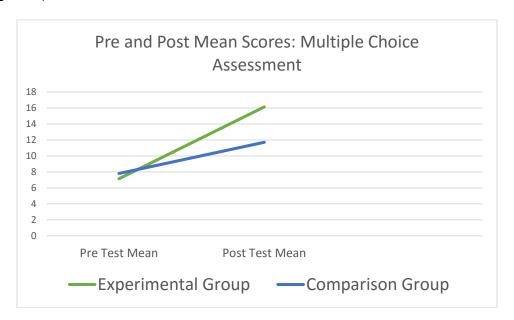


Figure 3: Pre and Post Assessment Mean Scores

An independent-samples t-test revealed a significant difference in the mean change scores for teacher-mediated vocabulary discussions (M = 9, SD = 2) and the incidental exposure (M = 3.93, SD = 3.06) conditions; t = 5.24, p = .00001. Because the p value is less than .05, the gains can be attributed to the intervention (teacher-mediated vocabulary instruction). These results suggest that teacher-mediated vocabulary discussions positively impact vocabulary acquisition more than incidental acquisition (see Table 2).

Table 2
Independent Samples t-Test of Vocabulary Acquisition based on Pre and Post Test

	Mean	SE	t-value	df	two-tailed p
Pre/Post Assessment	5.07	0.097	5.24	27	0.00001

Multiple Choice Assessment: p < .05 indicates statistical significance

The open-ended vocabulary assessment components were computed separately for each task. All mean scores increased from pre to post test (see Figure 4). For the task of

producing a definition, students in the experimental group had a mean score (M = 2.92) on the pre-assessment and a mean score (M = 8.08) on the post-assessment. For the task of producing an example, students in the experimental group had a mean score (M = 0.92) on the pre-assessment and a mean score (M = 4) on the post-assessment. For the task of producing a non-example, students in the experimental group had a mean score (M = 0.23) on the pre-assessment and a mean score (M = 2.92) on the post-assessment. For the task of assigning a confidence rating, students in the experimental group had a mean score (M = 18.85) on this pre-assessment and a mean score (M = 2.3.23) (see Table 3) on the post-assessment.

	Pre	Post
Definition Task	2.92	8.08
Example Task	0.92	4
Non-Example Task	0.23	2.92
Confidence Rating	18.85	23.23

Figure 4: Experimental Group Open Ended Pre and Post-intervention Mean Scores

Of the 226 correct responses given by the experimental group, 110 (49 %) were correctly identified words from the first three weeks of the intervention, and 116 (51%) were correctly identified words from the second three weeks. Scores from the open ended definition task were analyzed in the same fashion. Of the 117 correct responses produced for the definition task on the open ended vocabulary test, 58 (49.6 %) were correctly defined words from the first three weeks of the intervention, and 59 (50.6%) were correctly defined words from the second three weeks. These results suggest that new vocabulary knowledge was evenly retained over the course of the six week intervention.

Pre-assessment and post-assessment gain scores on the multiple choice assessment were computed separately from students in the following TRC (Total Reading Comprehension) groups: Above Proficient, Proficient, Below Proficient and Far Below Proficient. These scores were grouped and a mean gain for each group was computed (see Figure 5). Students in the Above Proficient group showed a mean gain (M = 10); students in the Proficient group showed a mean gain (M = 10); students in the Below Proficient group showed a mean gain (M = 8), and students in the Far Below Proficient group showed a mean gain (M = 9). This data suggests that the intervention proved effective for students across all ability levels.

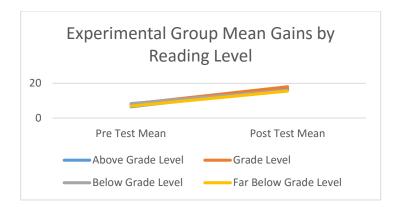


Figure 5: Mean Gains by TRC Level on Multiple Choice Assessment

The researcher log was analyzed and coded for themes related to the research question. The most widely coded theme centered on student engagement during all phases of the intervention. Of the 18 entries that were made during the course of the instructional intervention, the words "engaged," "enjoyed," "enthusiasm," and "eager" appeared at least once in 15 of the entries. Entries made on the first day of the intervention each week all included language indicative of engagement. For example, it was noted that "students were very engaged in the reading" or that "students have a natural curiosity about words." Even though the second day of the intervention each week was the second reading of the same book, students expressed their love for the books and their excitement about participating in the read aloud. For example, "students gasped and raised their hands" in anticipation of the targeted word's appearance in the text. Day three of the intervention was characterized by discussions of the words that generated examples, non-examples and synonyms of the words. Although engagement was only coded on three of the six days, on the days that it was coded, engagement was high: "students were very eager to participate, and get a little miffed at me because I can't call on everyone every time."

The next theme is related to the researcher's realization of the value of repeated readings. For example, on the first reading of *Watch Your Tongue, Cecily Beasley,* it was noted that students were so engaged with the story that they were "not as in tune to the targeted words." This prompted the notation that "two readings of the book are certainly necessary." It was also noted during the last week of the intervention that on the second reading of the book, students were "more in tune for the words...because they are familiar with the story, and they know how and when the words are going to be used. They are anticipating their mention."

Another less frequently coded theme was related to discussion serving as a source of clarification for students. Harris et al. (2010) cite that discussions of new words that include questioning and prompting lead to increased understanding. During the fifth week of the intervention it was noted that the researcher did not understand an example that a student was sharing, and so the student was asked to further clarify her example. Once the student had to explain her thoughts, it became clear that the student did understand the meaning of the word being discussed. During the second week of the intervention, it was noted "talking about the words out of the context of the book really demonstrates

whether or not they have a firm grasp on the meaning" and that "applying the word outside the book lends to a deeper understanding."

The last theme was related to students' difficulties with producing non-examples of the targeted vocabulary words. This frustration was noted in six out of the six entries that were made on the third day of the intervention. Students would often offer up ideas that were unrelated instead of non-examples. For example, "soap" and "couch" were volunteered as non-examples of tenacious because they were all items that could be stopped. It was noted though, that the students could more easily identify non-examples of words if definitions were more concrete.

Discussion and Conclusions

This action research study investigated the research question: "What is the effect of Teacher-mediated vocabulary discussion during classroom read aloud activities on the vocabulary acquisition of second grade students?" In addition to the statistically significant gains the intervention group made in terms of vocabulary achievement, students exposed to the intervention were also able to retain the words from the first week of the six week intervention equally as well as the words that were targeted in the last week of the intervention. Moreover, there was very little difference in the mean gains of students across assessed reading levels.

Beck and McKeown (2007) and Kindle (2014) established that read aloud activities are appropriate opportunities for teaching Tier Two vocabulary to primary school students because of the quality of the language that is used in trade books. Each picture book used in this action research study was found in the children's section of a bookstore, chosen purposefully because the quality of language that was presented in these books afforded second graders the opportunity to learn words such as *tenacious*, *gleaming*, and *dreadful*. These words would be less likely to occur in the books these students are reading independently as researchers have concluded.

Biemiller and Boote (2006), as well as Blacowicz and Fisher (2011) found that repeated exposures to the same texts help students gain a more in depth knowledge of new vocabulary. This action research utilized two readings of the same text to stimulate discussion of the words and how they were used in the text, and how those same words could be used in contexts outside of the texts. Students involved in this study demonstrated not only retention of these new vocabulary words, but also, through discussion, an ability to apply these new words to contexts outside of the reading.

This action research study design utilized two consecutive readings of the same text as recommended by Biemiller and Boote (2006). Qualitative data demonstrated that students still experienced a high level of engagement on the second reading of the text, and quantitative data analysis supported the fact that this study had a positive impact on the vocabulary acquisition of the students included in the intervention.

Kindle (2014), Beck and McKeown (2007), and Harris et al. (2010) demonstrated the effectiveness of direct teaching of vocabulary through teacher and student discussions borne out of targeted vocabulary encountered during read aloud activities. Furthermore, research supports that students need multiple exposures to new words in varying contexts (Blachowicz & Fisher, 2011; Kucan, 2012; Mixan, 2013) so that they may construct a deeper understanding of the words. This action research study built upon these findings. Both the experimental group and the comparison group were introduced to the words on day one of the read aloud. Students in the experimental group participated in three days of discussions centered on those targeted words in and out of the context of the book. Students in the comparison group, who were to acquire this new vocabulary incidentally, were not permitted to discuss the words with the teacher or each other during or after the read aloud activity. The data collected in this study demonstrates that student teacher discussions contribute to vocabulary growth. Students in the experimental group showed almost twice as much gain in vocabulary knowledge as the students in the comparison group, and the gains were consistent regardless of student ability level, and regardless of whether the words were targeted in the early or late weeks of the study.

Limitations

One limitation of teacher action research is generalizability. Findings are not generalizable and should be considered in light of individual teaching contexts. Further limitations include the small sample size, the six-week duration of the intervention, and the fact that the researcher was not the teacher of record for the class, and, therefore, had limited access to the research subjects outside of the intervention time.

Implications for Educators

The results of this action research study demonstrate that effective vocabulary study can be successfully integrated into the read aloud portion of the daily literacy block in the early elementary grades. This study illuminates the importance of thoughtful selection of tier-2 words for study. These are the words that students are likely to encounter throughout their schooling years and are typically more sophisticated words for concepts that students already know. Targeting this tier of words for discussion will be beneficial to students as they learn to become better readers, writers and communicators. Additionally, making strategic book choices could maximize vocabulary learning. Most importantly, primary readers benefit from repeated exposure to words and discussions about words before, during, and after read alouds. Teachers should be supported in how to incorporate vocabulary discussions into their read alouds. Supported by current research, the intervention design utilized in this study is a relatively simple addition to the already present read aloud portion of the balanced literacy blocks most teachers facilitate and requires as little as 20 minutes a day for three days a week. With proper training and support, even novice teachers could successfully execute this method to optimize vocabulary knowledge.

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Appendix A

Book Citation	Target Vocabulary	
Andrede, G. & Parker-Reese, G. (1999).	Elegant (adj.)	
Giraffes can't dance. New York, NY:	Slim (adj.)	
Orchard Books.	Crept (verb)	
Applegate, K. (2014). Ivan: The	Clever (adj.)	
remarkable true story of the shopping mall	Gleaming (adj.)	
gorilla. Boston, MA: Clarion Books.	Damp (adj.)	
Cronin, D. (2000). Click, clack, moo: Cows	Impatient (adj.)	
that can type. New York, NY: Simon and	Furious (adj.)	
Schuster Books.	Demand (verb)	
Fredrickson, L. (2012). Watch your	Content (adj.)	
tongue, Cecily Beasley. New York, NY:	Dreadful (adj.)	
Sterling Children's Books.	Tenacious (adj.)	
Karas, G. B. (2014). As an oak tree grows.	Perched (verb)	
New York, NY: Penguin.	Wilted (verb)	
	Conserved (verb)	
Mckee, D. (2013). Elmer and the whales.	Muttered (verb)	
London: Anderson Press.	Chuckled (verb)	
	Drifted (verb)	

Appendix B

Multiple Choice Assessment (Data Source 1)

- 1. Demand
 - A. To talk to others
 - B. To ask for with authority
 - C. To tell someone a secret
 - D. To yell at angrily
- 2. Content
 - A. Peaceful Happiness
 - B. Extreme camping
 - C. Dark mood
 - D. Loving embrace
- 3. Muttered
 - A. To talk loudly and happily
 - B. To speak softly with joy
 - C. To speak softly with irritation
 - D. To talk meanly about others
- 4. Tenacious
 - A. Not easily stopped
 - B. Not easy to read
 - C. Easy to talk to
 - D. Amused about something
- 5. Slim
 - A. Food
 - B. Short
 - C. Gross
 - D. Thin
- 6. Gleaming
 - A. Darkening
 - B. Shining
 - C. Yelling
 - D. Sinking
- 7. Clever
 - A. Able to figure things out
 - B. Able to run fast
 - C. Able to be happy
 - D. Able to see the future
- 8. Damp
 - A. Lightly painted
 - B. Darkly colored
 - C. Brightly colored
 - D. Slightly wet
- 9. Drifted
 - A. Rushed away by wind
 - B. Carried slowly by water
 - C. Carried slowly by horse
 - D. Threw away

- 10. Elegant
 - A. Sloppy in dress
 - B. Lazy with school work
 - C. Happy in life
 - D. Stylish in appearance
- 11. Impatient
 - A. In the hospital
 - B. Aggravated
 - C. Not outside
 - D. Satisfied
- 12. Perched
 - A. To sit on
 - B. To cook an egg
 - C. To clean a table
 - D. To run away
- 13. Furious
 - А. Нарру
 - B. Fast
 - C. Angry
 - D. Loved
- 14. Dreadful
 - A. No longer living
 - B. Having great meaning
 - C. Being very smart
 - D. Causing suffering
- 15. Chuckled
 - A. To laugh softly
 - B. To cut wood for a fire
 - C. To squat down to see
 - D. To talk with a accent
- 16. Wilted
 - A. Crooked with weight
 - B. Droopy with lack of water
 - C. Heavy with water
 - D. Smaller with age
- 17. Crept
 - A. To run quickly
 - B. To dance gracefully
 - C. To crawl away quietly
 - D. To slither away angrily
- 18. Conserved
 - A. To waste something
 - B. To store for later
 - C. To give away to charity
 - D. To move away

Appendix C

Vocabulary Self-Assessment

Vocabulary Self- Word	Definition	Example	Nonexample	Rating
				0
				1
				2
				3
				0
				1 2 3
				3
				0
				2 3
				3
				0
				1
				2 3
				3
				0
				1
				2
				3
				0
				1
				$\frac{1}{2}$
				$\frac{1}{3}$
				0
				1
				2
				1 2 3
				3
				0
				0
				1 2 3
				3
				0
				1
				1 2 3
				3