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A study to determine the effect of student picture definitions on increasing the vocabulary recall of the reading selection on dominant visual learners and dominant verbal learners

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A STUDY TO DETERMINE THE EFFECT OF STUDENT PICTURE
DEFINITIONS ON INCREASING THE VOCABULARY RECALL
OF THE READING SELECTION ON DOMINANT VISUAL
LEARNERS AND DOMINANT VERBAL LEARNERS

RESEARCH PROJECT

Submitted to the School of Education
University of Dayton in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by
Rosemary A. Bruehler

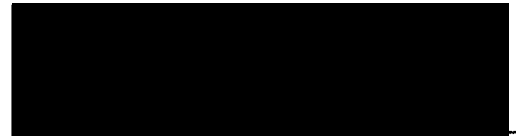
The School of Education
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Approved by:



Official Advisor

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CHAPTER I

INTRODUCTION

All children do not process information in the same mode. Some have a stronger dominance for verbal processing of information, while others have a greater dominance for visual processing. It was the intention of this paper to compare the results of two groups of students, dominant visual and verbal learners, after applying the visual technique of picture definitions.

Statement of the Problem

Our educational system is dominated by a curriculum that stresses analytical and logical thinking. All students do not process information in this manner, some are visual learners. In order to meet each child's needs, we need a variety of thinking methods that will benefit all types of processing.

Purpose of the Project

The purpose of this project was to evaluate the effects student picture definitions have on vocabulary recall.

Scope of the Project

This study was conducted within three self-contained fourth grade classrooms in a public school system in eastern Ohio. It consisted of eight vocabulary lists taken from Level 9 of the Scott, Foresman reading series. It was concerned with vocabulary recall and excluded spelling and comprehension.

Definitions of Important Terms

Dominant Visual Learners- those who do most of their processing visually as measured by the Your Style of Learning and Thinking test.

Dominant Verbal Learners - those who do most of their processing verbally as measured by the Your Style of Learning and Thinking test.

Picture Definitions - an individual's drawing of what a given definition's image is to them.

Vocabulary Recall - the ability to match a given word to its definition on a teacher-made vocabulary test.

Right-brained - term used by some researchers for visual learners.

Left-brained - term used by some researchers for verbal learners.

General Hypothesis

Those students who test as dominant visual learners will show a larger gain in vocabulary recall through the use of picture definitions than those who test as dominant verbal learners.

THE REVIEW OF THE LITERATURE

Researchers have hypothesized that the brain evolved in three sections to meet man's changing environmental needs. The first section - the hindbrain - is the gatekeeper of information, allowing stimuli into the brain. Next is the midbrain which monitors one's emotions. Lastly is the forebrain, the section that performs the highest functions of abstract thought and language, taking in information, interpreting, analyzing, associating, and preparing it for output. The forebrain is the brain with which schools and society are most concerned as they try to improve man's ability to learn, to think, to solve problems, and to create (Webb 1983).

This chapter will contain a review of related literature pertaining to the study of the forebrain. It will concentrate on early hemispheric studies, hemispheric functions in an educational setting, and the use of imagery.

Early Hemispheric Studies

To understand hemispheric studies, one must first understand the make-up of the forebrain. The forebrain is comprised of two halves or hemispheres connected by nerve fibers known as the corpus callosum. To identify the hemispheres, they have been named by their location in the forebrain as left and right. As a result, the hemispheres have come to be known as left and right brains, giving a false impression that there is a separation of the brains. The corpus callosum acts as passageways for information to pass from one hemisphere, or brain, to another, thus joining the hemispheres (Webb).

The history of human brain research is relatively brief. Throughout history man has tried to assign specific functions to the brain's two hemispheres. Springer and Deutsch (1981) cite that Marc Dax in 1836 was recognized as the first to propose that the two hemispheres had different functions. Dax's conclusions came from his observations of his patients

suffering from loss of speech. All of them showed signs of damage to their left hemisphere, so Dax concluded that each half of the brain controlled different functions.

In 1861, as reported by Springer and Deutsch, Paul Broca, a young surgeon, heard a speech delivered by Ernest Auburtin stating that the brain's frontal lobe contained the center that controlled speech. So impressed, Broca approached Auburtin and suggested that they work together on Broca's patients suffering from speech loss. Broca became viewed as the chief proponent of cerebral localization of function.

Broca's work stirred up much controversy. He continued his research and by 1864, he was convinced of the importance of the left hemisphere in speech. Broca also linked asymmetry with hand preference.

During the 1860's and 1870's, brain specialists deducted that damage to certain patients' left hemispheres resulted in a loss of language functions, while damage to other patients' right hemispheres was associated with losses in visual-spatial recognition (Gray 1980).

By the end of the nineteenth century, the main focus in brain research was on the left hemisphere and on any injuries which resulted in damage to the left hemisphere. It was not until the 1930's that scientists reconsidered the function of the right. It is thought that perhaps the reason the right hemisphere was ignored was due to the fact the right was not easy to analyze, label, or fit into traditional ideas about brain function (Springer & Deutsch).

It was during WWII more of the right hemisphere's functions surfaced (Williams 1983). Work done on patients with brain injuries in the right hemisphere revealed that the right specialized in visuo-spatial functions, in pattern perception, and in the discrimination of fine and subtle patterns in all sensory modalities.

Williams and Gray's writings both cite the work of Dr. Roger Sperry at the California Institute of Technology. As a result of Sperry's operations on his epileptic patients, it became possible to study the two hemispheres in isolation. Sperry thought that by cutting the corpus callosum he would prevent his patients' seizures from spreading, and at the same time the other hemisphere could be studied. For his work, Sperry was awarded the Nobel prize in 1981.

As time passes slowly the differences and specialities of the brain's hemispheres manifest themselves.

Hemispheric Functions in an Educational Setting

Research has shown that there is a definite difference between the right and left hemispheres of the brain. The most significant difference between the two hemispheres is how each processes information.

In Sinatra and Stahl's book (1983) they stress that different styles of thinking take place as a result of the way each half of the brain processes information. They go on to say that a child's natural way of processing information needs to be determined before their learning can be enriched.

The following list of characteristics taken from Vitale's book (1982), contrasts left and right cognitive behavior and gives an insight on how each hemisphere processes information.

Modes of Consciousness (p.9)

<u>Left Hemisphere</u>	<u>Right Hemisphere</u>
linear	holistic
symbolic	concrete
sequential	random
logical	intuitive
verbal	nonverbal
reality-based	fantasy-oriented
temporal	nontemporal
abstract	analogic

Specialization (p. 11)

<u>Left Hemisphere</u>	<u>Right Hemisphere</u>
handwriting	haptic awareness
symbols	spatial relationships
language	shapes and patterns
reading	mathematical computations
phonics	singing and music
locating details and facts	art expression
talking and reciting	creativity
following directions	visualization
listening	feelings
auditory association	color sensitivity

The educational system of our western culture focuses on traditional left-brained (verbal) modes of processing according to Samples (1977) and Garrett (1976). There is the tendency to optimize memorization of well-defined verbal facts and ignore the less easily tested effects of right-brained (visual) knowledge.

By the time youngsters reach school age, the characteristics of the left hemisphere have begun to dominate their language processing (Sinatra 1982). It is further advanced when most instruction is taught through left-brained input (reading and listening) and left-brained output (talking and writing). There is minimal use of right-brained instruction, so all youngsters are handicapped to some degree, especially those who are more proficient visual learners (Hunter 1977).

The author Blakeslee (1980) devotes a chapter in his book on the right brain hemisphere to its application to education. He also finds that our educational system is concerned mainly with the development of verbal abilities. He says there is nonverbal thinking going on in the lower elementary grades, but as a child advances, verbal thinking dominates.

For years within the lower elementary setting, the teaching of reading, as well as the other areas of the curriculum has focused on analytic and logical processing. Verbal or analytic learners, according to Brennan (1982), need to have the parts to something presented first and then they are able to form these parts into the whole. Phonics instruction is an appropriate form of instruction for left-brained analytic learners. Through phonics one begins with isolated letter sounds which are blended to form words.

On the other hand, there are those students whose strengths are in visual/spatial processing. These visual right-brained learners focus on the holistic aspects of reading. They need to see the whole picture or situation presented first before they can take in the details that make up the whole. They learn to read words and sentences more quickly and easily than they learn the sounds of isolated letters (Carbo 1982). Whole language experiences would benefited these students in reading.

Every adult and child makes use of the capabilities of both hemispheres and his cognitive style is expressed along a continuum of hemispheric preference (Zenhausern 1982). Since the educational system has emphasized analytic, linear functioning for years, now is the time to become concerned with equal qualities of cerebral functioning in children (Rennels 1976).

Blakeslee's states in his book that he feels a true reform of the educational system in our country will not come about until teachers learn to understand the true duality of their students' minds. As a result of this awareness, the teachers will conduct their classes to keep the attention of both the verbal and nonverbal minds.

Gray (1980) also has similiar ideas as Blakeslee. She feels that by knowing a student's preferred thinking style, a teacher can plan lessons and select materials so as not to bypass a student's strength (their dominant thinking mode) or fail to help him outgrow his weaknesses (his secondary modality).

Besides being attuned to a student's thinking style, each teacher has their own cognitive style that will influence their teaching style

(Zenhausern). Knowing one's own style can help to keep a balance in the presentation of materials. Steinley (1983) wrote an article in which he stresses a self examination of one's own teaching strategies. He studied his own style to find that he was causing his students to think of reading only analytically. From this self-examination, Steinley decided he needed to balance his literature program with tasks that would reach the visual or right-brained students.

For years our country's educational system has been ran in one style of thinking. With more and more research being conducted on the specialities of the brain's hemispheres, one is seeing the vast need to respond to the diversity of children's learning styles. As Sinatra and Stahl state it, "By acknowledging style, we truly acknowledge the concept of individualization." (p. 78)

Use of Imagery

Each of the brain's hemispheres has its specialities. The ability to visualize, draw, and understand shapes and patterns lies in the right hemisphere. A right-brained student profits from visual modes of instruction. Hearing words, sentences, and paragraphs is not always the best way for these individuals to learn. The use of pictures, maps, diagrams, and time lines will be more beneficial to a visual, right-brained student's learning style. Also, having these students use their creativity to draw, map, or chart their thoughts on the subject at hand can help form the mental images they need to understand the material (Williams).

Various research studies have been conducted to support the premise that imagery enhances word recognition, vocabulary recall, and reading

comprehension. Hargis and Gickling (1978) examined the effect imagery had on the acquisition of sight words. Their results showed that high imagery words were more readily learned as sight words and thus enhanced the development of word recognition.

Williams (1983) reports on a technique called Neuro-Linguistic Programming (NLP) used in 1980 by the staff at Santa Cruz, California: Not Ltd. Division of Training and Research. Neuro-Linguistic Programming was used to judge what strategies a good speller employs. Their findings revealed that those individuals who recalled a stored visual image of a word were the best spellers.

In 1986, Gambrell and Bales conducted a research study designed to investigate the effects of induced mental imagery upon the comprehension-monitoring performance of below-average readers. It was found that the children who were given instruction to induce mental imagery found inconsistencies in the text more often than the children in the control group. Mental imagery was proven in this study to be positively associated with comprehension-monitoring performance.

Gambrell and Bales interpreted the results of their study as showing that poor readers do not use mental imagery as a strategy for monitoring comprehension. They also feel their results suggest the use of imagery enhances the reader's ability to evaluate his or her understanding of the text.

In a study ran by Steingart and Glock (1979) imagery played a key role. The subjects of the study were divided into two groups. One group employed a repetition strategy while the other used an imagery strategy. In the repetition strategy the subjects were told to recite the passage paragraphs repeatedly to themselves during the allotted studying time. In the imagery strategy subjects were told

that they must form composite images or pictures in their minds of the objects described in the passage paragraphs.

The results showed that the imagery subjects recalled significantly more correct text relations than the repetition subjects. Also, the subjects who used imagery were able to draw more inferences from the passages than the repetition subjects.

Another research project involving imagery and reading comprehension was piloted by Linden and Wittrock (1981). Linden and Wittrock knew from previous studies the benefits of using generative learning. In generative learning, the readers relate their prior knowledge and experience to the text. In addition to generating verbal representations for the text, the readers can be taught to construct imaginal representations such as pictures, images, graphs, diagrams, and drawings.

In this study, Linden and Wittrock were comparing the presentation of reading stories. They looked at the lessons being introduced through imaginal generations, verbal generations, and no instructions to generate.

The data supported their hypothesis that children instructed to generate associations for the text during reading showed greater comprehension of the text than children not instructed to generate the associations.

One of the aspects of imagery is the use of picture definitions. The idea of picture definitions stems from the right-brained individual's success at visualizing images. When using picture definitions, one reads a given word's definition then forms a mental image of the definition and transfers it to paper via a picture.

Williams quotes a study done by M. C. Wittrock of the UCLA Graduate School in 1977 pertaining to the use of picture definitions. For the study, Wittrock's subjects were asked to read a given set of words and their definitions and then draw their own picture of what each definition's image was to them. Wittrock's findings revealed that the individuals in the study recalled the vocabulary words better when they drew "picture definitions" than just reading and writing the words and their definitions.

Throughout history, the study of the brain and its functions has primarily concentrated on the left hemisphere. The right hemisphere did not come into focus until the twentieth century.

Scientists have known for a long time that each hemisphere is responsible for certain areas of our learning. It is now more evident that the right hemisphere needs to also be developed in individuals who seem to possess more characteristics controlled by their right hemisphere than their left.

It is important for schools to incorporate various techniques to improve students' comprehension. One such technique that has proven successful with visual, right-brained individuals is the use of visualization. Visualization can be used with all aspects of reading from visualizing a word and its definition to mental pictures of a total paragraph. It is a technique that can be used and benefited by all.

CHAPTER III

DESIGN

Type of Design

This project used applied research involving a true experiment design with two groups that had been randomly selected. It utilized posttesting only.

Participants

Participants were sixty-seven students from three fourth grade classrooms in a rural public school in eastern Ohio. Each class was heterogeneously grouped. All the participants were tested for right-brained/left-brained dominance with the Your Style of Learning and Thinking Test (Torrance et al. 1976). From those individuals who scored high right or high left, eight right-brained learners and eight left-brained learners were randomly selected.

Apparatus

The project involved the use of the Your Style of Learning and Thinking test to screen for those individuals who showed predominance towards right-brained (visual) or left-brained (verbal) learning. The vocabulary lists used in the project were taken from Running Free, Level 9 of Scott, Foresman Reading series (1989). Each set of vocabulary words was evaluated by a teacher-made test.

Procedure

1. Reviewed the literature to find methods for teaching visual right-brained learners and verbal left-brained learners.
2. Obtained permission from the school principal to conduct the study. (See Appendix A for principal's letter.)

3. Sent letter to parents explaining the study and asking permission for their children to participate. (See Appendix B for parent letter.)
4. Gave the Your Style of Learning and Thinking test to all participating students.
5. From the test results, a group of eight visual learners and eight verbal learners were randomly selected to form the two groups.
6. The study ran the length of eight stories. Two practice vocabulary lists were used to acquaint all to what picture definitions were and to control for the Hawthorne Effect. All three teachers introduced the vocabulary in the same manner as the text suggested. On the first, third and fifth lists of words, the students were instructed to look up each word in their glossary, read its definition and then draw a picture of what the vocabulary word meant to them. For the second, fourth, and sixth lists, the students looked each word up and wrote its complete definition. On each day following their picture definitions or written definitions, the teachers gave a written test over the vocabulary recall. The written tests were the same for all rooms and were in one of two formats. Either they matched each vocabulary to its definition or filled in a sentence with the appropriate vocabulary word using context clues.
7. After the results were tabulated, a letter was sent home to explain the findings.

Operationally Defined Hypothesis

Those individuals tested as visual/right-brained learners on the Your Style of Learning and Thinking test will show a larger gain in vocabulary recall through the use of picture definitions over those tested verbal/left-brained.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Results of the Research

The data was charted to compare each subjects' increase or decrease and then to compare each groups' average on the picture definition scores.

Table 1 shows a comparison of each right-brained subject's average score on the tests over the written definitions to their average score on the tests over the picture definitions.

Table 2 compares the same areas of the left-brained subjects.

Table 3 compares the total average point gain on the picture definitions tests of the two groups.

Table 1 - Right-Brained Students' Averages

	<u>Written Definitions</u>	<u>Picture Definitions</u>	<u>Differences</u>
Students A.	41%	66%	+25
B.	62%	90%	+28
C.	70%	88%	+18
D.	93%	100%	+ 7
E.	84%	89%	+ 5
F.	95%	81%	-14
G.	58%	82%	+24
H.	75%	69%	- 6

Table 2-Left-Brained Students' Averages

	<u>Written Definitions</u>	<u>Picture Definitions</u>	<u>Difference</u>
Students I.	93%	100%	+ 7
J.	78%	95%	+17
K.	64%	70%	+ 6
L.	82%	85%	+ 3
M.	73%	100%	+27
N.	70%	66%	-13
O.	84%	95%	+11
P.	95%	100%	+ 5

Table 3 - Total Average Group Point Gain on the Picture
Definition Tests

<u>Right-Brained Group</u>	<u>Left Brained Group</u>
10.875	7.875

The results of the project showed that the majority of the right-brained subjects (6 out of 8) increased in their vocabulary recall using picture definitions. It also showed the same success for the majority of left-brained subjects (7 out of 8).

When looking at individual progress, the majority of the students who tested as right-brained made greater point gains than those tested left-brained.

CHAPTER V

DISCUSSION

Conclusion About the Hypothesis

The hypothesis was supported showing that using the visual, or right-brained activity of picture definitions was very beneficial in improving the vocabulary recall of those students tested as visual/right-brained learners. The conclusions also supported the fact that the majority of visual learners showed larger gains in vocabulary recall through the use of the picture definitions than those made by the verbal learners.

Interpretation of the Results

In this paper, the research set out to determine the effect picture definitions, a right-brained technique, would have on increasing vocabulary recall on dominant right and left-brained students. It was also important to compare the two groups.

The results showed that "picture definitions" can be a viable means of teaching vocabulary recall. Not only did those students tested visual/right-brained learners show improvement, the majority of the verbal/left-brained learners also showed gains in vocabulary recall.

An additional benefit of picture definitions is the ease with which this method can be implemented in the classroom. It does not require additional materials nor extended time for the students to implement. In most cases, the students were able to finish their vocabulary definitions much quicker when drawing them. Also, very little extra work is involved on the teacher's part. The results are

worth any extra time involved.

Recommendations

It is my recommendation that the use of picture definitions be used in conjunction with written definitions to balance the varied learning styles present within a normal classroom.

I also feel that this visual method of doing vocabulary definitions can go beyond the use in reading. I can see its possible use in spelling, English, science and health.

I would further recommend that other teachers explore this area of visualization to see what results they would obtain from their students.

Limitations of the Project

One of the main limitations of this project is the novelty of drawing pictures may have increased their desire to learn the definitions, thinking that the better they do, the more often they will get to use this method. Another limiting factor is the set of vocabulary words used for each story. Many words, like logical and adapt, are difficult for a fourth grader to mentally image. I also see the teaching style of a teacher being a limitation. I am willing to take the extra time to have my students try this new approach, but others may feel that it is taking away from time they could be using in other areas of vocabulary development.

APPENDICES

Appendix A

September 9, 1991

Dear Mr. Barnes,

One of my requirements for my Master's Degree is to conduct a research project. I am writing to ask permission to conduct a reading project among the fourth graders at Calcutta School. I will be comparing students who learn better visually to those who learn better verbally. The project would involve the students trying a different approach to vocabulary definitions. They would draw pictures of what a given word's definition looks like to them instead of writing the definitions.

I have spoken to my fellow colleagues, Heidi Dietz and Gretchen Madden, and they have consented to work with me on my project.

Thank you for your consideration.

Sincerely,

Rosemary Bruehler

Appendix B

September 9, 1991

Dear Parents,

I am currently working towards my Master's Degree in Education. One of my requirements is to conduct a research project. The reading project I would like to conduct is designed to compare students who learn better visually to those who learn better verbally. It will involve a different approach to doing vocabulary definitions.

I am writing to ask permission for your child to be part of my study. The project will not require any extra work on your part or your child's; it is just a different method of doing vocabulary definitions. While I will be writing a report on my findings, no names will appear. All personal information will be kept confidential.

Thank you for your co-operation.

Sincerely,

Rosemary Bruehler

Please complete this form and return to your child's teacher by September 13.

I give permission for my child _____
to participate in the research project.

Parent's Signature

Appendix C

VOCABULARY WORDS USED WITH PICTURE DEFINITIONS

List 1

adapt
blend
evaporate
meter
moist
organism
pressure
shallow
soggy
strain
surface
swell

List 3

acre
bushel
cone
cypress
demand
destroy
gesture
lumber
parakeet
redwood

List 5

bully
definite
distress
dolphin
experiment
glide
mammal
meaning
mew
pick on
squawk
strike
valve
whistle

Appendix D

VOCABULARY WORDS USED WITH WRITTEN DEFINITIONS

List 2

crackle
howl
kneel
lurch
manage
shove
shriek
spatter
squirm
stagger
stammer
tonsils
whimper
whine
wiggle

List 4

ashamed
chirp
cricket
excitable
frantic
leery
local
logical
neon
nervous
scuffle
stool
subway
talent
willow

List 6

appetite
dictionary
dreadful
impatient
ink
invention
mutter
poem
poet
praise
service
thundercloud
verse
washtub

APPENDIX E

Individual Vocabulary Scores

Right-Brained Visual Group

	List 1	List 2	List 3	List 4	List 5	List 6
Student						
A	42%	47%	100%	27%	57%	50%
B	100%	47%	100%	67%	71%	71%
C	100%	67%	100%	80%	64%	64%
D	100%	93%	100%	87%	100%	100%
E	100%	100%	80%	73%	86%	79%
F	83%	100%	80%	100%	79%	86%
G	67%	67%	100%	27%	79%	79%
H	83%	73%	60%	80%	64%	71%

Left-Brained Verbal Group

I	100%	80%	100%	100%	100%	100%
J	100%	100%	100%	40%	86%	93%
K	67%	80%	80%	40%	64%	71%
L	75%	67%	100%	100%	79%	79%
M	100%	67%	100%	67%	100%	86%
N	75%	80%	80%	87%	43%	71%
O	100%	100%	100%	87%	86%	64%
P	100%	100%	100%	100%	100%	86%

APPENDIX F

"How Are Organisms Adapted to Wetlands?"
"How Are Organisms Adapted to Oceans?"

adapt

blend

evaporate

meter

moist

organism

pressure

shallow

soggy

strain

surface

swell

APPENDIX G

"How Are Organisms Adapted to Wetlands?"
 "How Are Organisms Adapted to Oceans?"

 Name

Match the words in the Word Box to their definitions.

1. _____ slightly wet ; damp
2. _____ heavy and damp
3. _____ adjust ; change so as to be able to live under certain or different conditions
4. _____ the outside of anything
5. _____ not deep
6. _____ shade into each other, little by little
7. _____ the continued action of a weight or force
8. _____ the basic unit of length in the metric system
9. _____ to grow or make bigger
10. _____ turn into vapor ; remove water from
11. _____ a living body having organs
12. _____ draw tight ; stretch

WORD BOX

Adapt

blend

evaporate

meter

moist

organism

pressure

shallow

soggy

strain

surface

swell

"Henry Huggins"

Cut Apart And match the word with its definition.

crackle	to utter a loud, long, mournful cry, as a dog or wolf
howl	to control and direct
kneel	to whine
lurch	to stutter
manage	to splash with a liquid
shove	to make small, sharp, sudden noises
shriek	wriggle, twist
spatter	pair of oval masses of spongy tissue at the back of the mouth
squirm	make a low, complaining cry or sound
stagger	a sudden leaning to one side
stammer	to move unsteadily from side to side as if about to fall
tonsils	to push with steady force
whimper	to squirm
whine	a loud, sharp, shrill sound
wiggle	go down on one's knees

APPENDIX I

"Henry Huggins" Vocabulary Test

Name _____

Match the vocabulary definitions to their correct vocabulary words. Put the letter of the correct vocabulary word on the line in front of the definition.

1. _____	to utter a loud, long, mournful cry, as a dog or wolf	A. crackle
2. _____	to control and direct	B. howl
3. _____	to whine	C. kneel
4. _____	to stutter	D. lurch
5. _____	to splash with a liquid	E. manage
6. _____	to make small, sharp, sudden noises	F. shove
7. _____	wriggle, twist	G. shriek
8. _____	pair of oval masses of spongy tissue at the back of the mouth	H. spatter
9. _____	make a low, complaining cry or sound	I. squirm
10. _____	a sudden leaning to one side	J. stagger
11. _____	to move unsteadily from side to side as if about to fall	K. stammer
12. _____	to push with steady force	L. tonsils
13. _____	to squirm	M. whimper
14. _____	a loud, sharp, shrill sound	N. whine
15. _____	go down on one's knees	O. wiggle

APPENDIX J

"The Saga of Amy Boulder" Picture Vocabulary.

Acre

bushel

CONE

cypress

demand

destroy

gesture

lumber

para keet

redwood

"The Saga of Amy Boulder" Vocabulary Test

NAME _____

Cut the vocabulary words apart and glue each word in front of its definition.

_____ in trees of the pine family, a mass of overlapping woody scales bearing the seeds

_____ a movement of the hands, arms, or any part of the body

_____ a unit of area equal to 160 square rods

_____ a small parrot

_____ a unit of measure for grain, fruits, vegetables etc.

_____ to ask or call for with authority

_____ a fragrant evergreen tree of the pine family

_____ any tree yielding a red dye or having wood of a red or reddish color

_____ timber that has been roughly cut into boards or planks

_____ to put an end to; to do away with; to ruin

Acre	bushel	cone	cypress	demand
destroy	gesture	lumber	parakeet	redwood

"The Cricket in Times Square"

Some of the vocabulary definitions are completed, finish the remaining ones.

ashamed	
chirp	the short, quick sound made by crickets and some small birds
cricket	
excitable	
frantic	wildly excited
leery	
local	
logical	having something to do with good sense and sound reasoning
neon	
nervous	
scuffle	to struggle in a confused way
stool	
subway	
talent	
willow	kind of tree or shrub with tough, slender, branches and narrow leaves

APPENDIX M

"The Cricket in Times Square" Vocabulary Test

 NAME _____

Use the vocabulary words from the Word Box to fill in the sentences.

1. On the warm summer night, I could hear the _____ of the _____.
2. I found some moss growing under the _____ tree.
3. The _____ sign showed the way to the _____.
4. The detective was _____ about the stranger who was sitting on the _____.
5. When the firemen threw the candy during the parade, there was a _____ to get as many pieces as possible.
6. The woman was very _____ and _____ about losing her keys.
7. Bill was _____ for interrupting the _____ show.
8. When Beaver Local made a touchdown, the crowd became very _____.
9. I made a _____ guess as to how many jelly beans were in the jar.

Ashamed
chirp
cricket
excitable

Word Box
frantic
leery
local

logical
neon
nervous
scuffle

stool
subway
talent
willow

APPENDIX N

"About Dolphins" and "The Story of Bimbo the Big Bully"

bully

definite

distress

dolphin

experiment

glide

mammal

meaning

mew

pick on

squawk

strike

valve

whistle

APPENDIX O

"About Dolphins"
 "The Story of Bimbo, the Big Bully"

NAME _____

Match the vocabulary word to its definition. Put the letter of the definition in front of its correct vocabulary word.

_____ Bully
 _____ definite
 _____ distress
 _____ dolphin
 _____ experiment
 _____ glide
 _____ mammal
 _____ meaning
 _____ mew
 _____ pick on
 _____ squawk
 _____ strike
 _____ valve
 _____ whistle

- A. to move along smoothly
- B. longnosed sea mammals
- C. tease
- D. a person who constantly teases, hurts, or threatens
- E. a movable part
- F. cry of a cat or kitten
- G. to make a shrill sound by forcing the breath through the teeth or lips
- H. to utter a harsh, abrupt scream
- I. try in order to find out
- J. clear or exact
- K. trouble
- L. purpose
- M. hit; to attack
- N. warm-blooded animals with backbones

APPENDIX P

"Rhyming Ink" Vocabulary

Write a short definition for each word.

Appetite

dictionary

dreadful

impatient

ink

invention

mutter

poem

poet

praise

service

thundercloud

verse

wash tub

NAME

1. A _____ brought the
damaging rains.

2. Who is responsible for the _____ of the _____?

3. The _____ had one more _____ of his
_____ to write.

4. I was very _____ when my pen ran
out of _____.

5. You need a large _____ to finish a whole Thanksgiving meal.

6. The soldier received _____ for the
_____ he had done for his country.

7. I began to _____ to myself when my mother ask me to watch my little sister.

8. Since I didn't know the word's meaning,
I used the _____ to help me.

oo

Word Box

Appetite

dictionary

dreadful

impatient

ink

invention

mutter

poem

poet

praise

Service

thundercloud

verse

washtub

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