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Date July 28, 1971

VOCABULARY BUILDING IN THE JUNIOR HIGH

by

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ABSTRACT

The purpose of this study was to determine if the vocabulary growth of junior high students would show a significant increase after a school year of more intensive vocabulary study. Students in grades six, seven, and eight of a small rural school of seventy students were used. The classroom students of the year previous to the experiment year were used in the control group.

Word list, context study, word origins, prefix and suffix and root study were among the various techniques used. Classroom time in each of the courses of the curriculum was used for word study of words related to the material being studied in the subject. At the end of the school year, the California Short-Form Test of Mental Maturity was given to the experimental group. This same test form was given to the group the previous year while they were in the control group.

Results of the study showed more growth in the various study areas than in the vocabulary test itself. This shows that the word study gave the student a better understanding of his studies. The various tables showing the results in this study are found in Chapter 4.

It is recommended that further study be made into this type of research. More emphasis should be stressed on vocabulary to give the student a better understanding of his subject material.

Chapter 1

VOCABULARY BUILDING IN THE JUNIOR HIGH

Introduction

The need for a study into the widening of a student's vocabulary is evident. Many unfamiliar and not definable words and terms are encountered as he enters into junior high school. Inability to keep up with his work, or loss of interest in the subject can result from this lack of knowledge.

The intent of this paper is to make a research study of the vocabulary of the junior high school student; to see if a more thorough instruction of words and their make-up and their uses, to the junior high students, would increase the scope of his vocabulary. A study was made of the work of various researchers and what they have written and a study made of the results obtained. The researcher has set up an experiment used in the classroom situation during the school year. The results of this experiment were compared with the scores of a control group. The control group consisted of the students that were in those classes during the previous year.

The vocabulary of the student should be of a level that with his knowledge of word meanings, he also has the ability of taking words apart--that is, unlocking them. To do this he should be able to recognize the root word, and to know the meanings and uses of prefixes and

suffixes, as well as to be able to make out the meaning of a word from its content or context.

Statement of Problems

The problem of this study was to set up a procedure wherein various methods and techniques were used for the building of the student's vocabulary of junior high students so often seems to be limited in spite of all the reading they do, and the exposure they have to vocabulary through radio and television programs. This is probably due to reading material at a low reading level or lack of stress on vocabulary building in the earlier years.

In the Language Arts program, vocabulary building is done through the study of dictionary usage and word study, but in the testing programs the vocabulary scores are many times the weakest achievement of the student. Could this mean that vocabulary is not stressed in other areas of the curriculum, so when the student faces new words he is unable to obtain their meanings through reading?

From the past studies,[1] it has been proven when a student does a great amount of reading, it does not necessarily follow that he understands all the words that he is reading. In a study conducted by Gray

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[1]Robert B. Ruddell, "Oral Language Skills and the Development of Other Language Skill," Elementary English Journal (May, 1966), pp. 489-98.

and Holmes, in 1938,[2] they found that even though their control group did the most reading as far as volume of material read was concerned, their experimental group showed a greater vocabulary growth. In this study, history was used as the content material. With the control group word meanings were explained only when the student requested teacher aid, but in the experimental group vocabulary guidance was given to the students before and during the reading.

Research has not always been enlightening in aiding teachers to identify specific instructional techniques. Facts have pointed out that almost anything a teacher does will prove somewhat effective. No one single best approach has been identified, but indications are that a variety of techniques are useful.

Vocabulary is a very essential part of comprehension; thus, directed vocabulary instruction, through the utilization of various useful techniques, appears to be the most promising approach.

Purpose of the Study

No one knows the extent of his own vocabulary. The vocabulary is living, and grows. It contains as many different words as there are uses for each word. A student will not use all the words he learns in his daily conversation, yet he will recall their meanings when he

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[2]Samuel Weintraub, "The Development of Meaning Vocabulary," The Reading Teacher (November, 1968), p. 173.

hears them, or sees them in print. He may use them in his writing or in times of careful or exact expressing.

Can the vocabulary of the junior high student be increased? This study was conducted to determine the effect a more extensive vocabulary study would have on the student's school work as shown on the scores of tests to be given at the conclusion of the study.

In today's fast moving world a good vocabulary is very essential. As the students go from their junior high school into the high school, their subjects become more technical and scientific. If they do not know the meanings of the words they encounter in their study areas they will not be able to understand the full content of their subject material. They will encounter words that they have not met before or did not really understand. If they have learned to take words apart and are familiar with roots, stems, and other parts of words, they will soon be able to recognize the meaning of a new word that uses a combination of these parts.

Through this research study and experiment, it was found that the vocabulary can be increased through a more intensive study of words. The student is in a better position to understand his reading assignments and better grasp the materials in his subject area. Communication between student and teacher showed improvement. Further research into study areas became more meaningful and interesting to the student, encouraging him to do more reading. This influenced his

education since understanding what he was reading or studying stimulated him to further study.

The results of the research showed more work on words, and their parts and meanings should be done in junior high. A better and more interested student will be ready to continue his education. This can be done in the following ways:

1. Adding a course dealing with the development and understanding of words.

2. It could be the extention of the language arts area study of words, and more definition work in other courses.

3. Making the language arts more comprehensive in its word study.

General Questions

1. What research has been done in this area? What do the results indicate?

2. What kind of a program would the researcher set up?

3. How could the results be used?

4. How will the vocabulary growth, due to the experiment, be determined in comparison with the normal vocabulary growth of the individual student and of the control group?

General Procedure

To do this research, sixth, seventh, and eighth grade students were used as the experiment group. The students were tested individually. The students were scored individually, and also according to their grade. The eighth graders were scored and compared to their performance of the previous year and also to the performance of the eighth graders of the previous year. The same was done for the seventh and sixth graders.

The students were given the Iowa Basic Test early in the school year and an achievement test, the California Short-Form Test of Mental Maturity, in the latter part of the school year. The fall test was not used for results this year, but will be used the following year. The spring test was compared to the spring test given the previous spring. Also, tests given in the previous spring are used to find the amount of vocabulary gain as far as scores will show. These again are also compared with the previous year's eighth grade scores which was the control group, against this year's eighth grade, which was the experimental group. The same has been done for the seventh and sixth grades by comparing their scores with what the grades of the previous year did using them as the control group.

The control group consisted of the classroom students of the previous year. These students had the same courses, the same teacher and classroom, as the experimental group did during the school year

that the study was made.

Also the individual's scores of the experimental group were compared to his past scores to determine if there was or was not a greater amount of increase in scores after more emphasis was put on vocabulary building.

Several class periods were used to introduce some familiar words and their history to stimulate interest. Parts of words, as roots, stems, prefixes and suffixes were studied. After this had been established, words were taken from their different studies and meanings developed from context clues. At other times, words and meanings were discussed before the reading assignment was carried out.

Limitations

The limitations of this experiment were class size, variable material, different school year, and post-tests.

Class size was small in this experiment, as it was conducted in a small private school with a multi-classroom situation consisting of eighteen students in grades six, seven, and eight.

The second limitation was the variable material used in this experiment. The classroom students of the previous year were used as the control group and the students of the classroom during the time of the experiment were used as the experimental group. Both groups were from middle class families in a rural area.

In addition to the size and variable material limitations,

different school years was also a limitation. The scores of the control group were obtained during the year previous to the year of the experiment. The same curriculum, teacher, and classroom were used for both groups. New library books, new issues of weekly school papers, different television programs are a few of the things that have an effect on the student's vocabulary. These must be considered when the scores are being studied, even though both groups were under the same classroom situations.

Post-test, using the Iowa Tests of Basic Skills, would be a limitation, since this test is given in the fall of the year. The results of this test for the experimental group are not available at the time of this writing. The California Short-Form Test of Mental Maturity are given toward the end of the school year, so these results are used for comparison. This limits the result scores to one method of testing.

(This study will be completed when the scores of the Iowa Tests of Basic Skills are available in the fall.)

Definitions

1. Active vocabulary - employed in casual conversation and writing

2. Etymology - science dealing with the study of vocabulary

3. Learned words - seldom used in ordinary conversation, but met in books, through lectures, formal conversation of highly

educated people.

4. Passive or recognition vocabulary - words one recalls when heard, spoken, or seen in print.

5. Popular words - learned from family and associates, used in every day conversation even if one cannot read.

6. Reserve vocabulary - learned words used for careful expression

7. Vocabulary - indicates all the words belonging to a language from the point of view of their semantic value.

Summary

Since vocabulary is a very important part of every student's school life, everything possible should be done in the school to get the student interested in building his vocabulary. Through research and the gathering of data on what has been done in the past, studying results and setting up a program using some of the methods used in the past, and observing and converting it so that it was material that was suitable for the junior high school student, an experiment was conducted.

The materials in this chapter were used for the experimental group and a study was made of the results. These results have been compared with the scores made in the previous year by these students, when these students were in the control group. The scores will be compared on a grade basis and on individual scores and test performance.

Chapter 2

REVIEW OF RELATED LITERATURE AND RESEARCH

Introduction

In reviewing literature that is related to vocabulary building in junior high school, the researcher studied various articles in the Language Arts periodicals and books on the subject. It was possible to find several articles on the need of vocabulary building and its advantages. It is important to study what has been written so that the researcher was aware of what had been done and the possibilities that needed further exploration. The actual data on experiment results were found to be very limited. This chapter will give a review of some of the writings on vocabulary importance, followed by some research that has been conducted, and how some of this material will be used with the experimental group of this research study.

Classification of Words

The dictionary is the common tool used to find out the meanings of words. It must be remembered that the power of a dictionary is limited.[1] When interpreting the words or phrases in poetry, propaganda, and advertisements, as well as other writings, the dictionary will give

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[1] M. M. Mathews, Words: How to Know Them (New York: Henry Holt and Co., 1956), p. 54.

meanings of the words, but the particular meaning or usage of the word in its context is not given, as the word may have several functions.[2]

Words have functions for the user and the receiver.[3] Sometimes words have a different meaning for the user than for the receiver.[4] Words may be put into the following classifications:

1. Semantic function. This is a precise function, where the word has the same meaning to the user as it does to the receiver.

2. Syntactic function. This is where the meaning of the word is identified through its relationship with other words in the sentence or paragraph. Words may have different meanings in different contexts.

3. Pragmatic function. This is found in the creative way the novelist and poet uses words. It is the relationship the word has with its user. Words become the tools of speakers and writers.

4. Symbolic function. Here the receiver may receive something from the word which will provoke extreme emotional reaction in him. This is different from the pragmatic function, as only the hearer or the reader is effected.

5. Performatic function. This is used for identification, such as names.[5]

When the dictionary is being used, the student should be taught to take his time in studying the word and not hurry through the defini-

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[2]Robert E. Morsberger, How to Improve Your Verbal Skills (New York: Thomas Y. Crowell Co., 1962), pp. 106-150.

[3]J. A. Sheard, The Words We Use (New York: Frederick A. Praeger, 1945), p. 129.

[4]Morsberger, op. cit.

[5]J. Vendryes, Language (New York: Barnes & Noble Inc., 1952), pp. 115-36.

tion.[6] After reading the definition, he should try to figure out the parts of the word, study the various meanings and compare these to words with similar meanings in his vocabulary. After doing this with different words and having seen how parts of the words are clues to meaning, then the student should take the new word apart before he consults the dictionary to see if he can figure out the meanings through the context clues. This way the student will remember his findings and it will be a help in figuring out the meaning for his next new word.

The dictionary program should be started early in the student's school life and continued throughout his life. Words are fascinating. They should become a functional addition to the student's world. It is one of his most valuable tools for spelling, pronunciation, meaning, understanding, and communicating.

Teaching Vocabulary

Research evidence does not point to a single best approach for building vocabulary, so various methods must be used. The directed vocabulary, where words were provided by the teacher, seemed the most promising (See subheading Research, page 18).

The building of a reading vocabulary calls for a good foundation in reading skills. Phonics is a tool for the student to use for independent unlocking of word analysis. There are a number of skills

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[6] Mathews, op. cit., p. 55.

that must be developed for unlocking words. These include context clues, phonetic analysis, structural analysis, dictionary use, and kinesthetic clues. When these skills are mastered, they will help stimulate vocabulary building. The child should be encouraged to use his new words in his writing and speaking.

The study of prefixes, suffixes, and roots is also an important part of vocabulary building. In Thorndike's Teacher's Word Book of 20,000 Words, 24 percent have prefixes and fifteen prefixes make up 82 percent of these words. Fourteen suffixes account for nearly all of the suffixes used.[7]

Some objectives that should be the aim for vocabulary study are:

1. Arouse a lasting interest in words, derivations, roots, and new words.

2. Words have structural elements which can serve as clues to meaning.

3. Provide necessary skills to divide words into meaningful parts to determine meanings.

4. Equip pupil to use words or word elements to determine meanings.

5. Provide pupil with skills that he can transfer to other subjects.

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[7]E. L. Thorndike, A Teacher's Word Book (Teachers College, Columbia University, 1932).

The traditional approach to vocabulary building through lists and definitions has been supplanted by the linguistic approach. This approach has advantages since:

1. All words have history, and the meaning is determined by their origin and changes through the years.

2. The inductive teaching of prefixes, suffixes, and roots make the pupil aware of word parts, and familiarizes him with word elements and so equips him with skills to find meanings.

3. Students learn to use these skills in other disciplines.

The teacher must be aware of the fact that there will always be a wide range of vocabulary, and vocabulary knowledge, in his classroom. The child's environment has a great influence on the language he uses. Parents' education, social status, economic status and professional status, as well as locality, are a few of the things that will influence the vocabulary. This makes it very important that the teacher becomes a good model. The child can also be given oral expression through role-playing, story-telling, and group discussion.

Vocabulary building through the discussion of words from their context clues is beneficial to the student, especially the slow learner, as this gives him an opportunity to discuss and support his reasoning from the context in which the word is used. After the discussion, the student writes a sentence describing a situation that could define the word. Then a short descriptive paragraph is written around the word,

using the word in the last sentence as a conclusion. The sentences should be descriptive and interesting, and centered on the word that is being learned. Pictures can also be used to illustrate the word.

Some activities can also be used to make the vocabulary building interesting and alive. Many things, such as inventions, science, transportation, and communication systems, have had, and are having, a great effect upon our language and vocabulary. New words are constantly being introduced, and many of the old words are taking on different meanings or being replaced by other words. Some words take on stronger meanings as time goes on and others become weaker. Some activities that can be used are:

1. Compare the spelling of certain words used in the King James Version of the Bible with the newer versions.

2. Make a chart showing the spelling changes of words.

3. Make a Fifteenth Century word list and compare with today's spelling.

4. Trace the origin of hard to spell words.

5. Find different spellings of words in advertisements.

Vocabulary lists in the traditional way can be useful, but some modifications have to be made to adapt them to today's creative classrooms. This can be done through the dramatization of various meanings of certain words and through the usage of a number of words each day. These dramatized and studied words should be used in the

student's compositions. When the words are sent home, the parents can also become involved, so that everyone is using them. This calls for some enthusiastic, hard work and fair discipline through creative activities.

An "attractive book" can be used as a framework for vocabulary instruction.[8] The format of the attractive book must appeal to the student. The student should find the content of the book interesting and beneficial to his daily studies. There are many authors with important messages for today's students, particularly those concerned with man's relationship to man, the search for identity and man's potential for evil. These can be used for increasing or reinforcing vocabulary.

Books for this type of vocabulary should be chosen with care to be a gold mine of words appropriate to the student's level of development. These words must be so prepared and organized that they do not appear to be just another word list. They should be grouped according to the skills to be emphasized--structure, context, etymology, and dictionary use and word cards.

Words derived from Greek and Latin would be best served by prior instruction in the most common affixes.[9] The various techniques

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[8]Shirley Aaronson, "A 'Novel' Approach to Vocabulary Instruction," Journal of Reading (April, 1971), p. 478.

[9]M. M. Mathews, Words: How to Know Them (New York: Henry Holt and Co., 1956), pp. 91-109.

of contextual analysis would be studied and reviewed as the student goes through the book. The student is encouraged in the continual use of the word-cards for review work and to use the new words in writing experience.

Shirley Aaronson, in her work with this method, states, "The students seemed genuinely involved because vocabulary instruction is no longer an isolated and compartmentalized aspect of the reading curriculum."[10]

In adopting this vocabulary building approach, books selected must be of such a nature that the student feels that he really belongs; something that is significant to today's students. Short stories or newspapers and magazines can also be used. This approach to vocabulary is time consuming and involves much preparation, but it is a way of reaching students through a method that is meaningful and effective.

> Words to be learned must mean something to a child and be a vital part of his becoming. This is, the words should establish relationships. This can be introduced in a very simple way--by drawing up two columns of words and ask the students to choose one word on one side and to describe anyone on the other. For example,
>
> "growing up" in terms of "gardening"
> "teaching" in terms of "editing"
> "reading" in terms of "travelling".
>
> One of these columns of words is the key vocabulary and the other is life.[11]

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[10]Aaronson, op. cit., p. 478.

[11]Gordon Rohman, "The Vocabulary of Becoming: An Existential Approach to Writing," The Elementary Teacher (February, 1971), p. 187.

Research

Vocabulary knowledge is important in the developing of reading comprehension. Individual research done by several researchers indicates that there is a high interrelationship among the communication skills and that oral language development is an important basis for reading comprehension.

Strickland in his studies with sixth graders found those rated high in comprehension used a wider vocabulary range in their oral expression.[12] Studies conducted by Loban revealed children with an advanced language ability were also advanced readers.[13] In Milner's investigations, children from homes with books and being read to, and having homes where an enriched vocabulary was used, had a better reading achievement over against those that were deprived.[14]

The incidental and direct instructional method approach to vocabulary growth was investigated by Gray and Holmes.[15] They used history as the content material. The experimental group was provided with teacher's guidance on vocabulary before and during reading. The

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[12]Robert B. Ruddell, "Oral Language Skills and the Development of Other Language Skill," Elementary English Journal (May, 1966), pp. 489-98.

[13]Ibid.

[14]Ibid.

[15]Samuel Weintraub, "The Development of Meaning Vocabulary," The Reading Teacher (November, 1968), p. 173.

control group received meanings from the teacher only when it was requested or that they showed desire for help. Results showed that the control group read more and that the experimental group showed more vocabulary growth, indicating that reading alone is not a vocabulary builder. Another study by Gray and Holmes[16] revealed that children were not able to identify words that they did not understand.

In a study conducted during 1941 by Addy,[17] the teachers selected words that they thought were important. Many techniques were used--with those related to context and previous experience being the most effective.

The programmed format or self-checking in teaching words in context was studied by Eichols and Barbe in 1961.[18] They found that repetition in context situations aided in learnings and meanings.

As stated before, dictionaries used out of content is a poor practice since the pupil will often select the first meaning given. In 1941, Brad · , Cahill, and Tate[19] did a study using words in oral sentences and then clarified the meanings of words, which helped the pupil's understanding.

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[16]Ibid., p. 172.

[17]Ibid., p. 173.

[18]Ibid.

[19]Ibid.

Working on the meanings of root words at the rate of six per day using fifteen minutes daily proved to give vocabulary growth in a study conducted by Tate.[20]

Concentrated efforts through a cramming session of three and one-half hours followed by an immediate test and then a retest after three months showed no beneficial results in a study that Shannon and Kitth worked on in 1942.[21]

In a study conducted by Dighton in 1959,[22] he showed that context study gives meanings through definition, example, modifers, and inference and that more teaching should be done with English base words, words in a combination, synonyms, antonyms, contrasting words, and derivations.

Summary

In the review of literature on vocabulary building, it is very evident that there is room for further research in the classroom with the children. Past research is small, though a relationship of vocabulary building through various methods and procedures is proven through oral and written communication.

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[20] Ibid.

[21] Ibid.

[22] Ibid., p. 174.

Success is difficult to determine, but with a good control and experiment setting some success results have been attained.

Chapter 3

PROCEDURES

Introduction

The experimental group was given more extensive vocabulary training than the control group. Word lists were made from everyday experiences in the classroom curriculum, and from out-of-school activities, such as newspaper and magazine reading, radio and television, and advertisements. The experimental group was the entire classroom of sixth, seventh, and eighth graders.

The control group was made up of the students that were in the same classroom the year previous to the experiment.

The experiment to be used is explained and also how the results have been organized so they have a meaning. The scores of the experimental group were compared to those of the control group to see if there is a difference in the results. The scores given are grade-placements. Seven tables have been made. One shows results by grade level and the others indicate individual student growth during the year each was in the classroom.

Population Description

The population of the experimental group in this research consisted of all the students in the classroom for the school year of 1970-1971. This is a classroom in a small country school, and involved

students from a rural area. There were eighteen students in the experimental group; these were sixth, seventh, and eighth graders.

The pupils that were in these grades the previous year were in the control group. They were in the same classroom instructed by the same teacher. The students in the experimental group, who were in the seventh and eighth grades, were in the previous year's control group but were at the time in the sixth and seventh grades.

The eighth graders of the previous year's control group were not in the experimental group. Their scores of the previous year's test were compared with the scores of the experimental group of eighth graders. The control group and the experimental group had the same teacher, the same curriculum, and the same classroom.

Experimental Treatment

All students in sixth, seventh, and eighth grade received the same standard curriculum materials. In addition, the experimental group was given more extensive vocabulary study. The students that were the experimental group were given the same treatment as the control group; that is, each student in the grade was given the same instruction and the grade instructions were given at the various grade levels. By various grade levels is meant that the materials used were from the study areas in the various grades.

Besides the similar methods used for both groups, the experimental group was given extra vocabulary work through materials that

were common experiences for all of them--such as newspapers, magazines, outside reading books, as classroom library, and television.

A more comprehensive use of vocabulary building techniques was used in all their daily work. This included a much greater emphasis on words, through the use of root-list, with their origins and meanings, the study of history of words and changes in meanings, and a study of prefixes and suffixes.

Word lists taken from the various subject areas were used. These words were discussed and studied in their subject context. Students were also required to take unfamiliar words from newspapers, magazines, television, and advertisements and bring them to class to discuss meanings from context. They were then asked to study these in origin, history, and meaning.

Method of Collecting Data

The California Short-Form Test of Mental Maturity are given each spring to the students of the school. The scores the students of the control group made on the test in the spring of the previous year were available from their permanent records. The experimental group was given the same test during the spring of the experimental year. Both of these sets of scores can be checked against the national norms on the same test.

Method of Organizing Data

The growth in vocabulary building was determined through the scores the student made on the achievement tests. The score is the raw score made in the test. The growth was determined by the difference in the score attained as a member of the experimental group from the score made while in the control group.

The data of the control group were used in three ways:

1. The scores were set up by grades. These were studied in comparison to the grade scores of the experimental group now in that grade.

2. The individual scores of the control group who were in the previous year's sixth and seventh grade were compared with the scores that they made while in the experimental group as seventh and eighth graders. These scores were used to determine their vocabulary growth, as individuals, to see if there was a significant growth during the experimental year over that of the past year.

3. The scores that the eighth graders of the control group made while they were in the seventh grade were also used as a control. These were compared to the experimental results of the same grades.

Statistical Hypotheses

From the review of literature on the subject of vocabulary building, the researcher has developed the following research hypotheses:

1. That there will be significant growth in the student's vocabulary when more emphasis is put on the study of words, through their parts, origins, and meanings.

2. The null hypothesis that the researcher has set up is: that there will be no greater significant growth in the student's vocabulary when more emphasis is put on word study than when the student is exposed to the regular vocabulary study in the classrooms.

This null hypothesis has to be set up since there might be only a small difference between the groups and this situation may be due to various factors. Such factors as individual interests, reading, television viewing, and physical conditions are among those that will affect vocabulary growth, regardless of what is done in the classroom. These factors must be taken into consideration when a valuation of the scores is being made.

Results are shown on tables. Table 1, page 29, shows results of the three grade levels, comparing scores of the experimental group with those of the control group of each grade. Table 2, page 30, gives individual student's scores indicating individual vocabulary growth over the achievement of the previous year. Tables 3 through 7 show individual student's scores on other items of the California Short-Form Test of Mental Maturity. (See pages 31 through 36)

Summary

After the experimental group students had been given an extensive vocabulary study and instruction for a school year, their grade placement scores were compared with those of the control group. This was done by setting up tables that show results and can be compared.

Chapter 4

STUDY OF THE SCORE ANALYSIS OF THE STUDY

Introduction

The results of this study were obtained from the scores made on the California Short-Form Test of Mental Maturity. This test is given each spring of the school year. The control group and the experimental group were tested at the same time of their respective school year.

Seven tables are set up in this chapter. Each table is a different item of the test. The scores made in these items, by the individual students, are used for comparison.

Each student is given a number, and the number refers to the same individual in all the tables. The student's sex is also recorded. In each table, the student's score is given for the year he was a member of the experimental group and the year he was in the control group. Growth, either gain or loss, is shown for each individual.

A brief explanation is given with each table.

Table 1, page 29, shows the scores made by the control and experimental group at each grade level on the vocabulary test of the California Short-Form Test of Mental Maturity.

Table 1

Vocabulary Scores by Grades as Made by the Control Group and the Experimental Group

6th grade		7th grade		8th grade	
Control	Exper.	Control	Exper.	Control	Exper.
19	13	11	22	25	12
19	10	12	22	22	22
18	16	22	17	19	19
	17	24		19	21
	22	19		21	18
	16	21		19	19
	24			14	20
	17			24	
Mean 18.66	16.87	18.17	20.33	20.37	19

From the results shown in this table, the researcher concludes that the mean scores of an experimental group is not always going to be higher than the control group. This table shows that the seventh grade experimental group scored higher than the control group, but the mean of the sixth and eighth grade experimental group was slightly lower than the control group.

Table 2 shows the raw scores on the vocabulary test of the California Short-Form Test of Mental Maturity made by the seventh and eighth graders of the experimental group when they were in the experiment group and when they were sixth and seventh graders in the control group of the previous year.

Table 2

Vocabulary Scores Made By Grades While in Experimental Group and Control Group

7th as experimental group	6th as control group	8th as experimental group	7th as control group
22	19	12	11
22	19	22	12
17	18	19	22
		21	24
		18	19
		19	19
		20	
Mean 20.33	18.66	19	18.66
Growth - 1.66		Growth - .84	

This table shows growth in the mean score of both the seventh and eighth grade experimental groups.

Table 3 is set up to show individual gain or loss of the student comparing his score made while in the experimental group with those he made when he was in the control group the previous year. (Vocabulary scores made on the California Short-Form Test of Mental Maturity.)

Table 3

Individual Vocabulary Scores of Students In Experimental and Control Groups

Student No. and sex	Score made in experiment group	Score made in control group	Growth gain + loss -
I M	12	11	+1
II F	19	12	+7
III M	21	22	-1
IV M	18	24	-6
V M	19	19	0
VI M	20	21	+1
VII M	22	19	+3
VIII M	22	19	+3
IX F	17	18	-1

This table shows gain in the scores of most of the individuals. (Student IV's family was in the process of moving during the spring months, and he was absent considerably during this time.)

Table 4 is set up to show the relationship of the scores made by the experimental seventh and eighth grade group with those they made when they were members of the control group as sixth and seventh graders, respectively. These are scores made in the other areas of study to see if the vocabulary study had effect on their other studies.

Table 4

Individual Logical and Numerical Reasoning And Memory scores and Growth of Students in Experimental and Control Groups

Student		Logical reasoning			Numerical reasoning			Memory		
No.	Sex	Exper. group	Cont. group	Growth	Exper. group	Cont. group	Growth	Exper. group	Cont. group	Growth
I	M	31	31	0	25	22	+3	19	17	+2
II	F	35	33	+2	17	11	+6	17	12	+5
III	M	38	33	+5	22	21	+1	19	19	0
IV	M	35	32	+3	23	24	-1	22	15	+7
V	M	30	30	0	22	15	+7	19	17	+2
VI	M	38	39	-1	20	16	+4	18	16	+2
VII	M	37	34	+3	23	21	+2	23	23	0
VIII	M	34	38	-4	8	16	-8	21	18	+3
IX	F	33	34	-1	25	15	+10	15	21	-6

Study of this table shows growth in the scores of most of the students. There are a few slight losses, except for Student VIII, who

shows quite a loss in both logical and numerical reasoning. Student IX shows a definite loss in memory but a very great gain in numerical reasoning.

From the study of this table, one can see a very definite gain in the scores made on the numerical reasoning and memory work. This might show that a stronger vocabulary may aid the student in working out problems in numerical reasoning. The memory test is a recall test on a story read to them at the beginning of the complete test. Better grasp of the vocabulary could be a factor in the gains of the scores. The story was one on conservation--a subject more often of greater interest to boys than girls, and this could account for some of the gain made by Student VIII and some of the loss in the score of Student IX.

Table 5, page 34, shows the total of the individual scores on the Language and Non-Language Test of the California Short-Form Test of Mental Maturity. These scores were made by the experimental group while in the seventh and eighth grade and when they were in the control group as sixth and seventh graders, respectively.

This table shows that there was growth in all the language scores, with the exception of two students, each showing a loss of one. In the non-language area, definite gains were made by all the students excepting Student VII.

Table 5

Individual Language and Non-Language Scores and Growth of Students in Experimental and Control Groups

Student		Language			Non-Language		
No.	Sex	Exper. group	Control group	Growth	Exper. group	Control group	Growth
I	M	41	38	+3	46	43	+3
II	F	43	30	+7	45	43	+2
III	M	49	50	-1	51	45	+6
IV	M	50	36	+14	48	47	+1
V	M	45	39	+6	45	42	+2
VI	M	46	45	+1	50	47	+3
VII	M	54	52	+2	51	45	+6
VIII	M	47	44	+3	38	47	-9
IX	F	42	43	-1	48	45	+3

Table 6, page 35, is set to show the reader tht total gain or loss of each student that was in the experimental group during the test, and in the control group the previous year.

This table shows that definite gains were made by the majority of the students and a definite loss is evident in the total score of one male student.

An interesting observation is that Table 3, page 31, shows Student IV as having the greatest score loss on the vocabulary test, yet Table 6 shows him with the greatest total gain.

Table 6

Total Growth of Students in the Research

Student		Total gain	Total loss
I	M	+6	
II	F	+9	
III	M	+5	
IV	M	+15	
V	M	+8	
VI	M	+4	
VII	M	+8	
VIII	M		-6
IX	F	+2	

Table 7, page 36, shows the Mental Age (M.A.) and the Chronological Age (C.A.) and the Intelligence Quotient (I.Q.) of the students when they were in the experimental group and in the control group. These are from the California Short-Form Test of Mental Maturity.

From this table, it seems that if a student has a high M.A. or I.Q. when he enters junior high, his gain in M.A. is very little and a

drop in I.Q. is shown. Those with the lowest M.A. scores made the most significant growth. Two of the students who had the lowest I.Q. in the control group, showed the greatest I.Q. growth of those in the experimental group.

Table 7

C.A., M.A., and I.Q. of Student in Experimental and Control Groups

Student		Chronological Age				Mental Age			I.Q.		
No.	Sex	Exp. group year-month		Con. group year-month		Exp. group	Con. group	Growth	Exp. group	Con. group	Growth
I	M	13	11	12	10	18.3	17.8	+ .5	110	113	-3
II	F	13	11	12	9	18.5	16.6	+1.9	111	106	+5
III	M	14	5	13	3	20.4	19.9	+ .5	119	122	-3
IV	M	14	6	13	4	20.2	17.8	+2.4	117	110	+7
V	M	14	4	13	2	18.8	17.6	+1.2	110	110	0
VI	M	14	5	13	2	19.9	19.4	+ .5	116	120	-4
VII	M	12	10	11	7	21.5	19.9	+1.6	134	137	-3
VIII	M	12	8	11	6	18.5	19.0	- .5	118	132	-14
IX	F	12	11	11	10	19.3	18.8	+ .5	121	127	-6

As one studies the individual tables, the following conclusions can be drawn:

1. Table 1 shows that the mean of scores of one class to ano-

ther class can be used to compare classes, but there are too many variable factors involved so that growth of one class cannot be determined with the score of another class. The growth of each individual class must be taken into consideration to determine a growth factor.

2. Table 2 shows that the mean of the experimental group showed growth over the control group. This shows that the vocabulary mean can be increased.

3. Table 3 indicates that growth was evident in those that had low scores while in the control group. High scores in the control group and a lower score while in the experimental group could reveal that the material used was not extensive enough for their level of performance.

4. Table 4 would indicate that vocabulary building will show a favorable score gain in the other studies of the student.

5. Table 5 shows that the more extensive vocabulary study did have an effect on the non-language scores, as well as the Language scores.

6. Table 6 shows that all students, except one, made definite gains in their overall test results, indicating a definite growth pattern throughout all their work.

7. Table 7 shows that there is a steady Mental Age growth, but the Intelligence Quotient stayed quite stable.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted to determine if there would be a significant growth in the vocabulary scores of junior high students, after they had completed a school year of intensive vocabulary study. The students in the control group completed a regular course of study with no extra emphasis placed on vocabulary or word meanings other than what the regular course of study presented. As an experimental group, the class did more work on vocabulary study and word meanings and word usage. The same classroom students were used in the control group as for the experimental group. Upon completion of the study, it is apparent that the experimental group did make more growth in their study area scores than in their vocabulary scores.

Conclusions

In making conclusions, the following limitations must be kept in mind:

1. This study was made in a small rural school of seventy students.

2. The students were from middle-class families, neither rich nor poor.

3. The same students were used for the experimental group as

for the control group.

4. The control was the year previous to the experiment, so that various factors (as mentioned under Limitations in Chapter 1) must be taken into consideration.

As a result of this study, several conclusions can be drawn:

1. The results show that gains can be obtained. There is still much to be done in this work. The techniques used were of definite value, and more work should be done in this field.

2. The score gains were more evident in other subject areas, than in the vocabulary test. This could be due to the fact that the vocabulary studied in the subjects was relevant to the subject area and not to the vocabulary list of the 1963 edition of the test that was given.

3. The teacher in the junior high must constantly be trying new methods and different techniques to keep his class motivated and interested in the study of words.

Recommendations

New methods and techniques used by the classroom teacher are often found in professional magazines. Teachers should be alert to these and make use of them in their classrooms. The articles can be modified to their particular situations. No one should be afraid to try new classroom techniques or ideas.

"Every teacher is a teacher of reading."[1] Vocabulary is a definite part of the reading curriculum--therefore, vocabulary instruction should be part of every course in the curriculum. Through careful organization of materials, ten minutes a day has proven very valuable; and by the use of such techniques as board work, original sentences, spelling, and the study of various grammatical forms of words and a notebook for their personal use, many vocabulary gains can be made.[2]

Some recommendations for more vocabulary study are:

1. A more thorough familiarization of the student with parts of words--prefix, suffix, root, and stem.

2. Different word meanings from the context.

3. Study of the origin of words.

4. Study of the changes of the word meanings.

5. Formation of new words and how they relate to their meanings and are relevant to their usage.

Several of the ways used in this research, that can easily be adapted to any classroom situation, are:

1. Students brought in lists of words found in their outside reading, from newspapers, magazines, and extra curricular reading.

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[1]Marcene Mattleman, "More Than Decoding," The Reading Teacher (November, 1970), p. 139.

[2]Isadora W. Miles, "An Experiment in Vocabulary Building in High School," School and Society (April 28, 1945), pp. 285-86.

These lists were edited by the teacher and then each word was listed on the board and discussed (as to prefix, suffix, root) to better understand the meaning of the word. These were written in their vocabulary notebook. Each week a list was required. Review work was constantly done on the list.

2. New words in other curriculum areas were studied. In literature, social studies, and science, the new words and terms were studied in relation to their content area. In mathematics, many new terms and words were constantly illustrated on the board. The eighth graders of the experimental group gave evidence of growth in this area when they took a pre-high school algebra test. The seven students ranked in the upper fourth part of the test given to over 150 students.

3. A vocabulary workbook was used, which contained a great number of exercises calling for dictionary work, as well as using context clues and word origins.

4. The testing methods used were matching, multiple choice, rewording a sentence, using another word or term for an underlined word, and writing a sentence using the meaning, rather than the vocabulary word itself.

Further study on the results of more extensive vocabulary work with junior high students is recommended. In a larger school, it would be possible to do the study during a single school year since the population would be of a sufficient size to have an experimental group and

a control group of the same grade level. This would avoid some of the variables mentioned in this study.

A follow-up study on this research will be conducted. Each fall, the Iowa Basic Test is given to the junior high school students of the school. The new score results will be available for further study and comparison with results of the previous year.

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