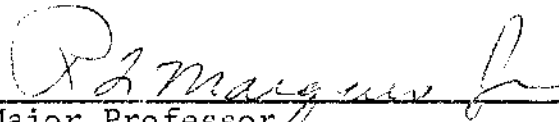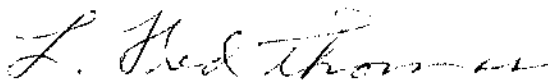EFFECTIVENESS OF PROGRAMED VOCABULARY INSTRUCTION

IN AN UNDERGRADUATE COLLEGIATE

BUSINESS COMMUNICATIONS COURSE

APPROVED:
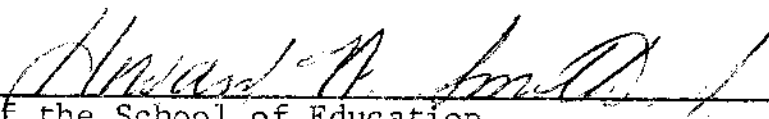
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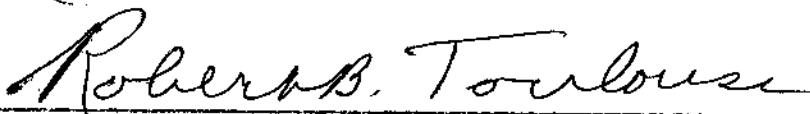Major Professor

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Minor Professor

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Committee Member

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Committee Member

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Dean of the School of Education

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Dean of the Graduate School

Burnett, Mary Joyce, <u>Effectiveness of Programed Vocabu-</u><u>lary Instruction in an Undergraduate Collegiate Business Com-</u><u>munications Course</u>. Doctor of Education (College Teaching), August, 1972, 82 pp., 8 tables, bibliography, 61 titles.

This study evaluates the effectiveness of programed vocabulary instruction in an undergraduate collegiate business communications course. In making its evaluation, the study tests the hypothesis that a class using such instruction would improve over a class without formal vocabulary study. The three areas of proficiency measured are written communication, vocabulary, and reading comprehension.

During a ten-week period, an experimental class was required to complete the assignments in an <u>EDL Word Clues Work-</u><u>book</u>, while another class, used as a control group, had no formal vocabulary instruction. The <u>EDL Word Clues Test</u> was administered to the experimental group during the first week of the study to determine the level of difficulty for workbooks to be used. During the same week, the students in both classes were given the <u>Otis Quick-Scoring Mental Ability Test</u>, <u>Gamma Series for High School and College</u>, to determine whether there were significant differences between the intelligence levels of the two groups.

The Diagnostic Reading Test, Survey Section, Form A, was administered to both classes as a pretest during the first week of the study. During the eleventh week of the study, at which time the experimental group had completed the programed vocabulary workbooks, the Diagnostic Reading Test, Survey Section, Form B, was given as a posttest. These tests indicated any change in the reading comprehension and vocabulary level of the two classes during this ten-week period.

To determine whether there had been improvement in the writing ability of the experimental class over that of the control group, both classes completed letter assignments during the first and eleventh weeks. These letters were rated by three college-level business communications instructors. These judges determined the overall effectiveness of the letters according to criteria developed by Robert R. Aurner and Morris Philip Wolf and published in their Instructor's Manual for Effective Communication in Business (Fifth Edition, Dallas, 1967). At the conclusion of the study the data were analyzed using the analysis of covariance technique.

An analysis of the findings indicates that the hypotheses are rejected. There is no significant gain in written communication ability, vocabulary growth, or reading comprehension

growth when one group is given programed vocabulary instruction and the other group is given no vocabulary instruction.

Analyses of the findings of this study lead to the following conclusions:

1. The fact that the control group registered as great an improvement or greater improvement in all posttests lends credence to the possibility that increased maturity and the enriched background received from the general course of study in business communications are relatively more important determinates of increase in reading skills, reading comprehension, and written communication ability than vocabulary training.

2. Improvement in reading comprehension, vocabulary, and written communication requires a longer period of vocabulary training than this study utilized.

3. Although the literature gives great support to the need for improvement in vocabulary and reading comprehension, this study indicates once again the difficulty of improving these abilities through singular or non-sequential programs.

EFFECTIVENESS OF PROGRAMED VOCABULARY INSTRUCTION

IN AN UNDERGRADUATE COLLEGIATE

BUSINESS COMMUNICATIONS COURSE

DISSERTATION

Presented to the Graduate Council of the

North Texas State University in Partial

Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

Mary Joyce Burnett, B. S., M. A.

Denton, Texas

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CHAPTER I

INTRODUCTION

Colleges and universities need to give attention to developing the vocabularies of students through carefully planned instruction. This area of language arts instruction is too important to be left to chance. It is generally recognized that an extensive knowledge of words and their meanings is one of the best single indicators of general intelligence and of scholastic aptitude (2, p. 494; 17, p. 284; 18, p. 171), and it is imperative for students to become "aware of words around them and interested in them" (11, p. 288). Research reveals that the two basic facets of comprehension at the college level are reasoning and word knowledge (10, p. 106; 11, p. 288). Thus if a reader possesses an adequate knowledge of word meanings, he should be able to evaluate written material critically, see relationships, and generalize effectively.

A vocabulary test is usually part of the entrance examination given at most colleges and universities. Many employment officials use the vocabulary test to select applicants for jobs. Awareness of the importance of vocabulary tests in

relation to scholastic achievement and job opportunities for students should encourage college teachers to emphasize the development of vocabulary in their classrooms through systematic study.

Statement of the Problem

The problem of this study was to determine the effectiveness of programed vocabulary instruction in an undergraduate business communications course.

Purposes of the Study

The purposes of the study were (1) to evaluate the effect of vocabulary instruction in developing written business communications ability; (2) to evaluate vocabulary growth; and, (3) to evaluate reading comprehension growth.

Hypotheses

To carry out the purposes of this study, the following hypotheses were formulated:

1. There will be a significant difference in the effectiveness of written communication in favor of the experimental group of two groups of undergraduate business communications students when one group receives programed instruction in vocabulary improvement and the other group receives no direct vocabulary instruction.

2. There will be a significant difference in vocabulary development in favor of the experimental group in two undergraduate collegiate business communications classes when one class receives programed vocabulary instruction and the other class receives no vocabulary instruction.

3. There will be a significant difference in reading comprehension in favor of the experimental group in two undergraduate collegiate business communications classes when one class receives programed vocabulary instruction and the other class receives no vocabulary instruction.

Background and Significance

According to Sapir, "thought . . . is hardly possible without the symbolic organization brought by language" (13, p. 15). Croll says, "A full vocabulary is essential to adequate self-expression" (6, p. 378). In the business world thoughts must be presented in writing, the usual purpose being to convince those who have power of decision that the thoughts presented should influence policy or behavior. Thus limited word power restricts thought power, and therefore, restricts communication.

In many courses the meaning of words is treated as an incidental and casual matter. It is believed that vocabulary

growth will concur concurrently with course work through exposure to the vocabulary of the teacher and the textbook. An experiment conducted at the University of Wisconsin negates this assumption (15). Other teachers believe that suggesting to students that they read will increase their vocabularies. Such a suggestion is too general and thus futile as far as the student is concerned (8, p. 49).

In another experiment Eurich found that by paying specific attention to vocabulary an experimental group gained an average of 14.1 words each on a given vocabulary test, while a control group, starting with approximately the same average, gained only 1.7 words on the same test. His conclusions were that students enlarge their vocabularies when attention is devoted to that end (9, p. 141).

Curoe discovered that while specific attention to vocabulary did not yield the fruits he desired, still the evidence was decidedly in favor of those students who had three minutes a day devoted to vocabulary in class (7, p. 524).

Buckingham studied the relationship between vocabulary and first-year algebra. He found that

> . . . a good knowledge of words found above the
> mean vocabulary for the mental age of fourteen
> years of the group is associated with higher re-
> sults in algebra . . . The relationships between

vocabulary ability above their mental age levels
and ability to solve algebraic problems involving
substitution, equations, graphs, radical, frac-
tional exponents and quadratic was significant
. . . Total scores in vocabulary and total scores
in algebra showed a significant correlation
(3, p. 79).

Since a knowledge of words may help chart an individual's

future, it behooves a college teacher to determine an effec-

tive method of helping students enlarge their vocabularies.

There are numerous ways of helping students to acquire knowl-

edge of many words, but as yet there is no sufficient evidence

to show which method of vocabulary instruction works best at

the different grade levels and with pupils of different degrees

of ability (4, p. 533).

Such results as are indicated by the three studies men-

tioned above suggest that increases in vocabulary help a stu-

dent in life in these ways:

1. Enable him to understand better what other

    people say;

2. Increase his comprehension of what is read;

3. Make possible a more refined and accurate

    expression of ideas and knowledge;

4. In all of these ways broaden his concepts in

    such a way as to improve the quality of his

    thinking.

Since a course in Business Communications should help a student in these four ways and since the primary purpose of vocabulary building should be to increase the student's ability to communicate, the question concerning the importance of developing vocabulary by a direct method in a Business Communications class seemed worthy of investigation. No studies were found which had investigated instruction in vocabulary and its effect in written business communications, and only one study concerning programed vocabulary instruction on the college level was revealed. Thus it appeared that further research was needed which hopefully would shed more light on the value of programed instruction in the development of vocabulary on the collegiate level.

Definition of Terms

The terms used in this study are defined as follows:

Business Communications is a study of the effectiveness of written expression with emphasis on the psychological aspects of daily communication in business.

Programed Instruction is an individualized, student-centered method of instruction in which a body of knowledge is divided into small sequential units. The steps between units are small so that a correct response to the stimulus

situation in each may almost always be made. The programed
materials used in this study are of linear construction type
with multiple-choice responses.

Frame is the small sequential unit into which the body
of knowledge is divided. These units are an orderly progres-
sion of learning matter which the student reads and responds
to in individual pieces. The frames are so planned and inter-
connected as to increase in difficulty as the student advances
to higher degrees of knowledge.

Limitations of the Study

This study was limited to students enrolled in two Business
Communications classes at a private church related college in
North Central Texas in the fall of 1971. There is no reason to
suppose that students at other institutions would differ in sig-
nificant ways from those included in this study.

Basic Assumptions

It was assumed that the two groups used in this study did
not significantly differ in motivation, cooperation, and inter-
est even though one group met on Monday, Wednesday, and Friday
from 12 to 12:50 p.m. and the other group met on Tuesday and
Thursday from 9:25 to 10:50 a.m.

The <u>Otis Quick Scoring Mental Ability Test</u>, <u>Gamma Series</u> <u>for High School and College</u>, was the instrument used for an intelligence measure. The established norm for adults is a score of forty-two (14, p. 4). Established reliability co-efficients ranging from .88 to .92 have been reported on the six equated forms of the test (14, pp. 5-6). The mean validity index of the test items in each form is approximately .50 (14, p. 6). One of the suggested applications of the test is to obtain two or more groups of equal mental ability for research purposes (14, p. 6).

<u>Vocabulary and Reading Comprehension Achievement</u>

The instrument used for measuring vocabulary and reading comprehension achievement was the <u>Diagnostic Reading Test</u>, <u>Survey Section</u>. The purpose of this test is to give a relatively brief (40 minutes) overview of general reading ability, yielding separate scores for rate of reading, vocabulary, and comprehension, and a total score summing vocabulary and comprehension. Rate is determined by number of words read in three minutes, using story type material. The comprehension score is based on this same material (allowing the student 15 minutes to complete the reading and answer the questions) and on four shorter passages. "The rate and comprehension scores are

indicated to have reliability coefficients of about .80, while the vocabulary scores have a reliability of about .85. The reliability of the total comprehension score is about .90" (5, p. 572).

Written Business Communication Achievement

Criteria established by two well-known authors in the field of Business Communications were used to measure achievement in written business communications. These criteria have been published in the *Instructor's Manual for Effective Communication in Business*, Fifth Edition, and are given in Appendix A (1, p. 51).

Procedures for Collecting Data

Permission was granted by the Division of Business Chairman at Texas Wesleyan College and the instructor of the two sections of the same junior-level Business Communications courses to use the approximately sixty students enrolled in these courses in the fall of 1971 in this study. These students were unaware that they were involved in a research project.

The class which met on Monday, Wednesday, and Friday from 12 to 12:50 p.m. was the experimental group, and the class which met on Tuesday and Thursday from 9:25 to 10:40 a.m.

was the control group. Students in both classes were day students, spent two and one-half hours a week in class, and were taught by the same instructor.

During the first week of the study the students in the two classes were given the <u>Otis</u> <u>Quick</u> <u>Scoring</u> <u>Mental</u> <u>Ability</u> <u>Test</u>, <u>Gamma</u> <u>Series</u> <u>for</u> <u>High</u> <u>School</u> <u>and</u> <u>College</u>, to determine if significant differences in intelligence existed. The <u>Diagnostic</u> <u>Reading</u> <u>Test</u>, <u>Survey</u> <u>Section</u>, <u>Form</u> <u>A</u>, was given as a pretest during the same week. <u>Diagnostic</u> <u>Reading</u> <u>Test</u>, <u>Survey</u> <u>Section</u>, <u>Form</u> <u>B</u>, was given to the classes the tenth week of the study as a posttest.

During the first and tenth weeks of this study the <u>EDL</u> <u>Word</u> <u>Clues</u> <u>Tests</u>, <u>Form</u> <u>A</u>, and <u>Form</u> <u>B</u>, respectively were administered to the Experimental Group. <u>Form</u> <u>A</u> of the test indicated the vocabulary level of the student so that the proper programed instruction workbook was chosen for the student to complete. <u>Form</u> <u>B</u> of this test indicated whether the student had raised his vocabulary level by progressing to the next workbook.

In order to determine whether emphasis on vocabulary increased the students' written communication ability, one letter assignment during the first week of the study (See Appendix B)

and one letter assignment during the last week of the study (See Appendix C) were submitted by each student in both the control and experimental group to the instructor. Both groups completed identical letter assignments. These letters were given to a panel of three judges, current teachers of Business Communications, who determined the overall effectiveness of these letters according to criteria developed for that purpose (See Appendix A). As a part of this study a reliability check was made on the criteria. These criteria have been developed by two authorities in the field of Business Communications and have had extensive use in collegiate Business Communications courses in the United States.

Even though each judge was familiar with the rating scale a training session was held in which each judge rated five letters using the rating scale before rating the letters used in this study. As needed, clarification was made concerning the categories in the rating scale.

<center>Procedures for Treatment of Data</center>

<center>The Research Design</center>

The research design utilized for this study is the non-randomized Control-Group Pretest-Posttest Design illustrated by Van Dalen (16, pp. 275-276). The following is a paradigm for this design:

TABLE I

RESEARCH DESIGN

Non-Random Sample	Pretests	Treatment	Posttests
Experimental Group	T_{1E_a}	X	T_{2E_a}
	T_{1E_b}		T_{2E_b}
	T_{1E_c}		T_{2E_c}
Control Group	T_{1C_a}		T_{2C_a}
	T_{1C_b}		T_{2C_b}
	T_{1C_c}		T_{2C_c}

Pretest $(T_{1E_a}$ & $T_{1C_a})$ -- One Written Business Communication Letter Problem

Posttest $(T_{2E_a}$ & $T_{2C_a})$ -- One Written Business Communication Letter Problem

Pretest $(T_{1E_b}$ & $T_{1C_b})$ -- Diagnostic Reading Test, Form A

Posttest $(T_{2E_b}$ & $T_{2C_b})$ -- Diagnostic Reading Test, Form B

Pretest $(T_{1E_c}$ & $T_{1C_c})$ -- Vocabulary Section of Diagnostic Reading Test, Form A

Posttest $(T_{2E_c}$ & $T_{2C_c})$ -- Vocabulary Section of Diagnostic Reading Test, Form B

The Statistical Design

The three hypotheses stated earlier were tested using

the analysis of covariance technique. The analysis of co-

variance is a statistical technique that may be utilized with

intact groups for the purpose of testing hypotheses pertaining to differences in achievement as a result of different curricula. This statistical procedure also equates groups in the event there are any differences.

The null hypothesis was rejected at the .05 level of significance for the three hypotheses in this study. Conclusions were formulated from the findings and recommendations were made.

Summary

Helping students develop adequate vocabularies is too important to be left to chance. Intelligence, scholastic aptitude, and performance tests are based in large part on vocabulary. Consequently, colleges and universities need to be concerned with carefully planned vocabulary instruction for their students.

This study hypothesized that programed instruction materials would help students increase their written communication ability, reading comprehension, and vocabularies. Students enrolled in two Business Communications classes at Texas Wesleyan College were the subjects for the study. One class was designated as the experimental group and the other class was designated as the control group. The experimental group

completed programed instruction material in vocabulary development, while the control group received no vocabulary instruction. Pretests and posttests were given in written communication, reading comprehension, and vocabulary to both groups. The hypotheses were tested using the analysis of covariance technique.

Chapter II will survey the related literature in the area of vocabulary instruction from the primary level to the college level as well as the role programed instruction has played in vocabulary development.

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CHAPTER II

RELATED LITERATURE

Background reading for this study indicated the importance of developing an adequate vocabulary. As previously noted, Sapir states that individuals think with words (34, p. 15). Terman's studies indicate a high correlation between vocabulary and general intelligence (43), as do Bernard's writings (4, p. 744; 5, p. 494).

The literature reviewed has been divided into five categories: vocabulary instruction at the primary school level; vocabulary instruction at the intermediate school level; vocabulary instruction at the secondary school level; vocabulary instruction at the college level; and programed vocabulary instruction. Considerable more research is available concerning the effectiveness of methods employed in improving vocabulary at the primary and intermediate grade levels than at the secondary school or college level.

Vocabulary Instruction at the Primary School Level

Research revealed that the language of the child changes both qualitatively and quantitatively as he matures. The changes result from the child's interactions with his environment and are due to both maturation and learning (22). According to Saadeh:

> Most of the change is in the direction of complexity and results from many different types of natural, meaningful learning experiences. Patterns of language development are highly individualistic and reflect the child's individual concepts and his verbal representations (39, p. 170).

A child has developed a unique pattern of verbal concepts by the time he reaches secondary school. If he lacks the necessary language to read, speak, listen, or write, he will encounter great difficulty in mastering his required subjects. It should be recognized, however, that it is not merely his vocabulary that needs development, for his limitations in vocabulary probably reflect a paucity of concepts needed for thinking, reasoning, and learning (37). Kingston says:

> Direct vocabulary training probably will be more effective in assisting the student who has rich and varied concepts but a more limited number of verbal symbols associated with them. It is doubtful how much it helps the student who lacks the necessary store of concepts (32, p. 265).

Serra indicates, however, that in the classroom situation it may not be possible to develop all the required concepts in children by providing meaningful personal experiences (40, p. 276).

Some direct vocabulary instruction may be necessary if the student is to progress satisfactorily (44).

Storm (41) points out that the vocabulary of a normal child will grow just as rapidly as vital situations in which his participation requires the use of new words with some precision and accuracy. The child's environment, his mental growth, and his interest have much to do with the building of his vocabulary.

The effect of direct instruction in vocabulary using fourth grade students was studied by Gray and Holmes (24). History classes were divided into a control and an experimental group. The experimental group's attention was directed to new words, blackboard illustrations were used, the value of context to determine meanings was stressed, and word forms and their characteristics were discussed. The experimental group improved over the control group in tests of words actually taught, in the use of new words in composition and in the ability to discuss history topics. The authors also tested the effect of vocabulary development in reading comprehension and found that direct vocabulary instruction "usually insures a more detailed and accurate comprehension of meaning, a clearer

grasp of relationships between ideas presented, and a more orderly organization of essential meanings" (24, p. 77).

In a study by Durrell and Sullivan (2) the results indicated that maturation was a much more significant factor than practice in developing speed in recognition of words (20, p. 194). Fourth grade children were paired on the basis of age, sex, and IQ and divided into an experimental and a control group. One group received practice in responding to thirty-one lists of fifteen words each and the other group received no practice.

Bleyer (8) investigated the effect of isolated vocabulary study on reading comprehension in the fourth grade. The results of the study indicated that the experimental groups who studied vocabulary words each day achieved higher reading comprehension scores than those in the control groups who followed the prescribed lesson plans in reading instruction.

The premise of the St. Louis Vocabulary Development Project was that verbal ability is largely responsible for success in school, and by the time a child reaches fourth grade vocabulary gains special importance. Fourth, fifth, and sixth grade students in the St. Louis Public Schools received vocabulary instruction over the school system's radio station with follow

up by the classroom teacher. Sizable gains were made in the students' verbal ability as reflected in standardized achievement tests and intelligence test scores (19, p. 482).

Lieberman's study (33) evaluated the effects of teaching vocabulary concepts through direct experience and through conventional instruction on reading achievement and on concept achievement in two fifth grade classes in a private school. The twenty-one students in the experimental group were taught vocabulary concepts through direct experience and the twenty-one in the control group were taught through a conventional method. It was concluded that both groups increased in reading and concept achievement, but the experimental group made more significant increases in concept development.

Another study involving sixth grade students was concerned with structured writing experience versus original writing in the development of vocabulary. Vocabulary was improved as a result of structured writing experiences (3).

Urdal's study (45) of sixth grade students was an experimental investigation designed to ascertain the effectiveness of direct systematic vocabulary instruction emphasizing prefixes, suffixes, and root words as well as some elements of sentence structure, mnemonic devices and etymology. The required level of significance was not obtained in vocabulary

and spelling achievement but was obtained in reading compre-
hension.

Vocabulary Instruction at the
Intermediate School Level

Addy (1) found that the most common source of words taught
in the intermediate grades is literature and the reading mater-
ial in content subjects. Little value is found in the study
of etymology or root, prefix, and suffix in middle grades, but
using the dictionary to locate words in reading context and
relating new words to former experiences are the most common
methods of attack upon new words. However, Garrison (23) in
his study of the effect of word elements upon pupils' knowledge
and meanings of words, found it wise for teachers to make use
of prefixes, suffixes, and stems in teaching vocabulary.

A study testing the effects of auditory, supraliminal,
and written reinforcement of words presented by closed circuit
television on the vocabulary development of seventh and eighth
grade pupils was made by McDonald (35). Four treatments were
used (1) auditory word reinforcement; (2) auditory and supra-
liminal word reinforcement; (3) auditory, supraliminal, and
written word reinforcement; and (4) auditory and written word
reinforcement. Female students scored significantly higher

than male students, and the group exposed to auditory and written word reinforcement scored significantly higher than the group exposed to auditory word reinforcement. Otherwise, there were no significant differences between treatment groups.

Brown (11) was interested in determining which one of two teaching methods--the gaming method or the discussion method-- was more effective in teaching seventh grade students complex vocabulary. There were thirty-eight subjects in the gaming (experimental) group and thirty-nine students in the discussion (control) group. Both teaching methods proved equally effective in teaching the students complex vocabulary.

In Gutkoska's study (25) eighth grade students were divided into three groups: (1) Group A followed a definite vocabulary study procedure in which a pretest was given and scored; the words in the pretest were discussed; unfamiliar words were found in the dictionary, defined and used in a sentence. A few days later the teacher administered a second exercise which included the same words and the same procedure was followed. Once a month the teacher administered a vocabulary test in order to evaluate the children's growth in reading vocabulary. (2) Group B employed the Words Are Important Program in which the students defined a list of twenty words,

used the twenty words in twenty different sentences, and used as many words as possible in writing a paragraph. (3) Group C was not exposed to a formal vocabulary program but word meanings were developed indirectly. The posttest data indicated that there was no statistically significant difference among the three groups (25, p. 117).

Four approaches to the development of vocabulary were investigated in ninth grade language arts classes: the direct-teaching approach, the interest-in-words approach, the wide-reading approach, and the incidental learning of vocabulary approach. The students in the first three approaches to the development of vocabulary were the experimental groups. The students in the incidental learning approach comprised the control group. The teacher of the direct-teaching approach taught new vocabulary words using word lists, emphasizing prefixes, suffixes, and root words as means of learning new words. The teacher of the interest-in-words group required her students to prepare notebooks with exercises using new words and emphasized the etymology of words. The teacher of the wide-reading approach emphasized wide reading and gave class time for free reading. Two evaluative instruments were used--the Diagnostic Reading Test, Vocabulary Section,

and the Nelson-Denny Reading Test, Vocabulary Section, with a comparison of pretest and posttest scores within groups. According to the Diagnostic Reading Test a comparison of pretest and posttest scores within groups revealed the interest-in-words approach group resulted in significant improvement at the .05 level. A comparison of the mean gain in vocabulary improvement between the experimental groups indicated that the experimental approach groups did not differ significantly in vocabulary improvement as measured by the mean gain from the pretest to posttest. When the experimental groups were compared to the control group, the interest-in-words approach showed improvement significant at the .05 level. According to the Nelson-Denny Reading Test a comparison of pretest and posttest scores within groups revealed improvement significant at the .01 level for the experimental groups and at the .05 level for the control group. When the experimental groups were compared with the control group on this measuring instrument, there were no significant differences. Such varied findings raises doubt as to the validity of standardized tests of vocabulary. According to Hammack perhaps vocabulary tests may not be measuring the effectiveness of vocabulary teaching as presumed, and this may be one of the reasons there is

little agreement as to the most effective method of teaching vocabulary (27, p. 91).

Symonds and Penney (42) investigated the possibility of encouraging vocabulary growth in a ninth grade English class using an experimental group which received vocabulary training and a control group which did not receive vocabulary training. Vocabulary training consisted of arousing the interest of students in words by giving them assignments to make lists of words that were unfamiliar and by discussing a few words each day. At the end of four months, both the experimental and control groups showed improvement in vocabulary, but the experimental group had a more significant gain. This gain was attributed to "the interest stimulated in words in general which resulted in attention to, and the consequent learning of, new and strange words wherever met" (42, p. 100).

Vocabulary Instruction at the Secondary School Level

Instruction in vocabulary improvement is typically left to the English teachers in the secondary schools. Studies reviewed, however, indicate that teachers of various subjects are concerned with helping students improve their vocabularies. According to Dale and Milligan, "Vocabulary improvement should

be the concern of all teachers--not only in order to prepare
students to communicate clearly, but because vocabulary devel-
opment is crucial to learning" (17, p. 42).

Henmon (28) drilled secondary school sophomores on vocabu-
lary items for twelve weeks and then tested for increases in
vocabulary, ability to read with understanding, ability to
choose words correctly and the ability to give accurate mean-
ings. General reading comprehension and other vocabulary skills
appear to have been influenced by the drill sessions (28,
p. 102).

Blevins' study (7) using three methods of vocabulary in-
struction--Contrived Contextual, Wide Reading Natural Contex-
tual, and the Practical High School English--did not support
the possibility of some instructional methods in vocabulary
development to produce greater achievement than other methods.
However, vocabulary instruction that provides for word study
in the broader natural context of the message conveyed by
connected words appears superior to isolated word study (con-
trived) vocabulary instruction (7, pp. 40-41).

Wolff (47) investigated the use of background music dur-
ing classroom instruction in a tenth grade speech class in
order to determine whether or not there would be improvement
in the learning of vocabulary, grammar, and in the delivery

of speeches. It was found that the use of background music had a beneficial effect on vocabulary and grammar learning and that most students prefer background music during classroom instruction.

Miles (36) conducted an experiment at Technical High School in Washington, D. C., to discover to what extent the teaching of vocabulary by the direct method for one semester would affect the general vocabulary after a period of two and one-half years. The gain by the direct method of teaching vocabulary for a period of even one semester as shown by this experiment was as follows: The students who were taught by the direct method made a jump in one semester from forty-one words to seventy-three and five-tenths words which carried over two and one-half years with a loss of less than four words. The students who did not receive direct instruction showed a sixteen word gain over six semesters (36, p. 286). This indicated what might be done by direct methods of vocabulary teaching over a longer period of time.

Vocabulary Instruction at the College Level

In Haefner's study (26) a class of college students found a new word on the chalkboard each day. The word was defined and used in appropriate sentences. At the beginning of the

class the chalkboard was erased. Bringing words to the atten-
tion of students appeared to have a significant effect as
measured by a multiple choice test of the words used in this
experiment (26, p. 276).

Curoe (15) believed in the value of a planned, concerted
drive for enrichment of vocabulary at the college level. He
set up an experiment with two groups of college seniors. The
experimental group spent three minutes at each of forty-five
class meetings on "Today's Words." The control group had no
such direction. The findings showed that the practiced group
outscored significantly the control group on an objective
test (15, p. 524). The two groups were not in the same course,
but the same instructor was used for both courses.

Curoe and Wixted further elaborated on the above study
dealing with the vocabularies of college seniors. In this
study two groups were organized, each of which were given pre-
tests and posttests. The experimental group had practice on
"Today's Words" for three minutes each day while the control
group had no such experience. The experiment was continued
over two semesters. The authors concluded that vocabulary
enrichment can be achieved by focal treatment of words within
the boundaries of college courses with little expenditure of

time. The writers believe that the whole field of active vocabulary enhancement at the senior college level has lain dormant (16, p. 375).

Blair experimented in vocabulary building with two groups of college juniors and seniors. The experimental group assumed responsibility for owning a dictionary, looking up unfamiliar words, keeping a notebook of new words, and handing in daily lists with meanings of words, the source and illustrative sentences. The control group had no such direction. The experimental group showed significant gains in vocabulary as compared with the gains of the students in the control group (6, p. 101).

Brumbach's study (12) was concerned with determining the effectiveness of three methods of presentation on the acquisition of vocabulary through context by beginning graduate students. The three methods were: audio-visual, audio, and visual. It was concluded that any one of these three methods of presentation would be equally effective in vocabulary acquisition through context.

Crump (13) compared the vocabulary growth of freshmen students in a college basic speech class when one group was given direct word study instruction, while the other group

was given no specific direct instruction in vocabulary building. Both groups were given Vocabulary Test, Form A, of the Diagnostic Reading Test at the beginning of the semester. At the end of the semester Form B of the Diagnostic Reading Test was administered. No significant difference was found between the teaching of vocabulary by a direct and by an indirect method. It appeared, however, that there is some merit in a direct method of teaching vocabulary since there was a slight difference in favor of the group that was given direct word study instruction. Thus if vocabulary is to be taught directly, close supervision in the choice of words needs to be exercised by the instructor. Also emphasis needs to be placed on word concepts and the use of words in context (13, p. 50).

An experiment was conducted at the University of Wisconsin in a speech fundamentals course which involved testing 623 students over a two-year period. The students were given identical definition-type pretests and posttests of vocabulary lists found in the text for the required speech course. The first test was given during the first hour of the course, and the second test was administered during the final class meeting. Of the 623 students, 44 gained between one and six words; 34 gained more than six words; the remainder were static.

These insignificant gains indicate that vocabulary growth will
not occur concurrently with course work through exposure to
the vocabulary of the teacher and the textbook (38, p. 49).

The "Master Word" approach (a system which relies heavily
on prefixes and root elements) to vocabulary training has been
used at the University of Minnesota (45). The approach was
used in a ten-week "Efficient Reading" course. A forty-item,
multiple choice test was devised, and 162 students were given
the test before and after the course. Part I of the test was
designed to examine the student's retention of the simple mean-
ings of the prefixes and roots. On the average 34 per cent
of the students improved on the posttest. Part II tested
ability to recognize or identify the various forms in words.
The mean improvement was 22 per cent. Part III, which tested
ability to apply the method to unfamiliar words, showed a
mean improvement of 20 per cent. Part IV assessed ability to
generalize prefix and root meanings into unusual and hypothet-
ical combinations and other related aspects. The mean improve-
ment was 23 per cent. It appeared that from this method stu-
dents were able to increase their vocabularies (45, p. 65).

Curl (14), too, felt that learning prefixes and roots
would enhance one's vocabulary. He examined research studies

in psychology, in language and linguistics, and in the teach-
ing of vocabulary to college students and developed a vocabu-
lary textbook which emphasizes the study of a selection of
Greek and Latin roots.

Most of the studies reviewed indicated that students'
vocabularies showed some increase as a result of carefully
planned instruction in word study as compared with those stu-
dents who received no such instruction. Also it was apparent
that the students' maturity and ability to conceptualize were
important attributes in the building of vocabulary.

The crucial question at this time, then, is what type of
instruction in vocabulary development is most effective. Since
programed instruction has received wide publicity as an effec-
tive educational tool which could be utilized by students on
their own with little help form the teacher, literature will
be reviewed on the effectiveness of programed instruction in
the development of vocabulary.

The Effectiveness of Programed Instruction
in Vocabulary Development

Eichholz and Barbe (21) experimented with a mechanical
self-checking device which proveded immediate feedback to
seventh grade pupils studying vocabulary items. The results

of this eight-week study showed that the group provided with immediate feedback made significantly greater gains than a control group not receiving practice on the mechanical device (21, p. 7).

A three-year study in the primary grades of the Brookfield Illinois School System by Jones (31) compared a programed method of instruction with a basal reading program. Median scores of vocabulary development obtained from the Gates Reading Test favored the programed approach (31, p. 39).

At the secondary level Johnston (30) found no significant difference in vocabulary development between groups of eighth graders in regular classrooms taught vocabulary with a conventional method and similar groups using systematically supplemented programed materials.

Brown's study (10) involved a group of bright pupils in the sophomore class in a Berwyn Illinois High School using his Programed Vocabulary to help develop better word analysis techniques. The materials were used thirty minutes per week for one year. A similar control group received no specific instruction in word analysis techniques. Statistically significant results on a teacher-made objective test were found in favor of the group using programed materials.

Alexander (2) conducted a study with ninety college freshmen enrolled in a compulsory reading improvement class comparing a programed vocabulary improvement approach (EDL Word Clues) with a more conventional approach using the dictionary with lessons patterned after the format used by H. C. Hardwick in Words Are Important. In the programed approach (experimental group) the EDL books were assigned to students according to scores made on the vocabulary section of the California Reading Test, Advanced, Form W. This experimental group completed the programed text and wrote an original composition or sentences using words studied which were evaluated individually by the instructor. Students in the conventional group studied the same words as the experimental group, again determined by the vocabulary section of the California Reading Test, Advanced, Form W, according to the dictionary method outlined by Hardwick. There were no significant initial differences between the two groups in abstract intelligence, level of vocabulary development, age, educational level of parents, type of occupation of parents, and size of communities in which the students live. The posttest vocabulary score means (vocabulary section of the California Reading Test, Advanced, Form X) revealed no significant differences

between the two approaches in promoting vocabulary growth
(2, p. 107).

Devine (18) investigated whether or not specific vocabulary could be learned by children with hearing impairments by means of teaching machines and a programed vocabulary course. Students at the California School for the Deaf at Berkeley were divided into two groups--an experimental and control group. Although large gains in vocabulary learning occurred, there were no significant differences between the groups.

Another study investigated the effectiveness of the teaching machine as a method of teaching vocabulary. The subjects were divided into three groups--two experimental groups and one control group. Experimental Group I used the Non-Linear Systems Vocabulary Building, a teaching machine using programed vocabulary film cartridges. Experimental Group II used programed vocabulary booklets that were made from the film tapes used in the machines. The control group did the kind of vocabulary work that is normal work in an English class. The group using the teaching machine showed a significantly higher gain in vocabulary acquisition, but statistically non-significant loss on the follow-up test of retention. The group using the programed booklets and the control group

showed a slight but non-significant gain on the posttest and made a gain on the follow-up test of retention (9, pp. 152-153).

Summary

The importance of teaching vocabulary cannot be denied. Maximum learning and accurate concept formation depend on an adequate vocabulary whatever field a student may be pursuing. A full vocabulary is akin to adequate self-expression, ability to read with comprehension, and speed in reading (29, pp. 140-141).

A review of the studies in the area of vocabulary improvement at the primary, intermediate, secondary, and college levels as well as the effectiveness of programed vocabulary development indicate that a variety of methods for teaching vocabulary have been tried and tested at various grade levels. Uncertainty still reigns, however, as to the effectiveness of programed instruction and other methods in the development of vocabulary.

In Chapter III a description of the subjects, a description of the Business Communications course with which this study was concerned, the procedures used for collecting the

data, the methods employed in analyzing the data, and the statistical treatment of the data are presented.

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CHAPTER III

PROCEDURES FOR OBTAINING AND TREATING DATA

This chapter presents a description of the subjects, a description of the course in Business Communications with which this study was concerned, the procedures used for collecting the data, the methods employed in analyzing the data, and the statistical treatment of the data.

Description of the Subjects

Sixty students enrolled in the two Business Communications classes meeting during the day at Texas Wesleyan College were the subjects for this study. Business Communications is a required course for graduation with a Bachelor of Business Administration degree at Texas Wesleyan College. Students are advised to take this course during their junior or senior year. Thus the class meeting on Monday, Wednesday, and Friday was composed of 18 seniors and 12 juniors, ranging in age from 20 to 44; and the class meeting on Tuesday and Thursday was composed of 16 seniors and 14 juniors ranging in age from 20 to 52. In the Monday, Wednesday, and Friday class there were 25 males and 5 females, and in the Tuesday and Thursday class

there were 21 males and 9 females. Both classes were taught by the same instructor.

Description of Business Communications Course

The Business Communications course in which both the experimental and control group participated was designed to enable students to learn to communicate more effectively in a written and oral manner. In order to accomplish this, the major purposes of the course were:

1. To emphasize the importance of effective communication to successful business management.

2. To learn to apply the positive qualities of effective written communication which included principles of effective writing, organizing written messages, and human relations factors in business writing.

3. To practice techniques of effective oral communication which included dictating procedures and oral reports.

4. To practice constructing such types of business messages as those which ask for information, assistance, services, or goods; inform, explain, direct, or instruct; and gain or retain goodwill.

5. To learn to develop an effective letter of application and resume.

6. To practice effective communication related to sales and persuasive writing.

7. To develop methods for successful adjustment, credit, and collection communications.

8. To create effective business reports, both written and oral.

In order to accomplish these purposes the students in both groups were involved in the following activities:

1. Read the textbook Effective Communication in Business, Fifth Edition by Robert R. Aurner and Morris Philip Wolf and discuss the major issues in class.

2. Summarized in written form eight periodical articles written within the past five years which pertained to each of the purposes of the course and gave oral presentations on the most helpful articles.

3. Composed twenty-four business letters which were evaluated by the instructor and returned with constructive criticisms to the students.

4. Received practice in using the dictation equipment by completing a project which entailed the use of this equipment.

5. Composed a memorandum and letter report.

6. Wrote a formal business report which necessitated library research.

7. Presented orally to the class the major findings of the business report.

8. Took a mid-term and final examination on the text-book and material presented and discussed in class.

Procedures for Collecting Data

The data for this study were collected over a ten-week period during the fall semester of 1971. The class meeting on Monday, Wednesday, and Friday was designated to be the experimental group and the class meeting on Tuesday and Thursday was designated to be the control group. The experimental class and control class started the semester with 32 and 34 students respectively and both ended the semester with 30 students.

The experimental class was administered the EDL Word Clues Test, Form A, during the third week of the semester so that the students could receive the appropriate level of programed vocabulary workbook to complete during the next ten weeks. The EDL Word Clues Test score determined the assignment of a Word Clues Workbook at the student's reading level. Since the control class did not receive vocabulary instruction, they were not given this test or assigned a workbook to complete.

Each of the two forms of the <u>Word</u> <u>Clue</u> <u>Test</u> contained
ninety-eight words graduated in difficulty from reading levels
seven through thirteen. Each word was presented in a contex-
tual setting with clues provided as to the word's meaning. The
student was asked to determine the best synonym or meaning for
the word. Thus word knowledge was checked in a functional
situation. The premise behind the EDL workbooks was that "A
word has no meaning in and of itself, but functions only as
part of the context in which it appears" (2, p. 90). Thus each
of the thirty lessons in the book started with the beginning of
a story. Ten words were presented in relation to each story
with a total of three hundred words per workbook. In working
with each word three frames were used. In the first frame the
word was introduced by dividing it into syllables, indicating
its diacritical markings for pronunciation, and using it in
a sentence. The student was then asked to write a definition
or synonym in the space provided. In the second frame the
word was shown in one or more sentences. More clues were given
as to the meaning of the word. The student then completed the
meaning or synonym exercise in the frame. By turning the page
the student saw the correct answer for the second frame. In
the third frame the student was given the dictionary entry

which contained several numbered definitions, parts of speech, pronunciation changes, the etymology, and synonyms. A question was asked regarding the word's meaning and the student completed the exercise, the answer of which was found on the next page. If the student answered the last frame incorrectly, he was to reread the frames for the word. If the student answered the last frame correctly, he continued on to the next word. The students in the experimental class completed thirty words each week in the EDL Word Clues Workbook which were checked by the instructor.

During the third week of the semester the students in both classes were given the Otis Quick Scoring Mental Ability Test, Gamma Series for High School and College, to determine if significant differences in intelligence existed between the two groups. The Diagnostic Reading Test, Survey Section, Form A, was given to both classes as a pretest during the third week, and during the fourteenth week of the semester the Diagnostic Reading Test, Survey Section, Form B, was given as a posttest. These tests indicated any change in the reading comprehension and vocabulary level of the two classes.

To determine if the programed vocabulary workbook had improved written communication skill, one letter assignment

during the third week of the semester was submitted by each student in both classes to the instructor (See Appendix B). This assignment was completed before the students in the experimental class were assigned the programed vocabulary workbook. During the fourteenth week of the semester, at which time the students in the experimental class had completed the programed vocabulary workbook, students in both classes submitted another letter assignment to the instructor (See Appendix C). These pretest and posttest letters were assigned to determine if there was any improvement in the writing ability of the students in the experimental class over those in the control class since the control class had received no instruction in vocabulary improvement.

Analysis of the Data

The pretest and posttest scores of the students on the Diagnostic Reading Test, Form A, and the Diagnostic Reading Test, Form B, respectively were recorded. Sixty questions related to vocabulary and one hundred questions related to reading comprehension.

The pretest and posttest letters which were assigned to both the control and experimental group were rated by three judges: one junior college instructor and two senior college

instructors. These judges were currently teaching a course in Business Communications. They studied the rating scale, agreed on its use, and completed several practice trials before actually judging the letters.

Each judge rated both the pretest and posttest letters or a total of 120 letters. These letters had been given a randomly assigned number. After the investigator had prepared a master list of the letters which contained the name of each subject with the corresponding pretest and posttest letter number for that subject, a copy of each letter on which there were no names but a number was prepared for the judges. The identity of which group of letters consisted of the pretest or posttest was not revealed to the judges.

The letters were rated according to the following criteria: Principle of Unity, Principle of Coherence, Principle of Power, Characteristic of Accuracy, and Characteristic of Word Economy. These criteria had been developed by Aurner and Wolf for determining effective business writing and are further explained in Appendix A (1, p. 51).

The following five-point scale was utilized in rating each letter according to each of the five criteria:

Points	Rating
5	Outstanding
4	Good
3	Commonplace
2	Poor
1	Rejected

Thus a letter could receive a maximum of twenty-five points or a minimum of five points by a judge when all criteria were considered. A total score for the three judges was obtained for each pretest and posttest letter and thus recorded.

Statistical Treatment of the Data

After scoring the Otis Quick Scoring Mental Abilities Test and the Diagnostic Reading Tests, Forms A and B, and recording the total scores received from the judges on the letters the data were analyzed according to the non-randomized Control-Group Pretest-Posttest Design illustrated by Van Dalen (3, pp. 275-276). Hypotheses I, II, and III were tested by using the analysis of covariance technique which equated individual differences. The tenability of each hypothesis was determined by the resultant F values.

In the treatment of the data in testing Hypothesis I, the two covariates were the intelligence test and the letter

pretest. The posttest letter was the criterion. In the treatment of the data testing Hypothesis II, the two covariates were the intelligence test and the vocabulary pretest. The vocabulary posttest was the criterion. In the treatment of the data testing Hypothesis III, the intelligence and the reading comprehension pretest were the two covariates. The reading comprehension posttest was the criterion.

Data Relative to Inter-Rater Reliability

A check on the reliability of the rating scale was made. Ten letters written by students in a Business Communications class were rated by three business teachers. A simple correlation was then computed. The coefficients of correlation measuring inter-rater reliability ranged from .81 to .84 which Table II presents.

TABLE II

TABLE OF INTER-RATER COEFFICIENTS OF CORRELATION

	Raters	
1	2	3
X	.84	.81
.84	X	.82
.81	.82	X

Summary

The subjects in this study consisted of two classes of thirty students each enrolled in a collegiate Business Communications course. The major objective of the course was to enable students to learn to communicate more effectively in a written and oral manner.

One class was designated as the control group and the other class was designated as the experimental group. An intelligence test was administered to both groups to determine if significant differences in intelligence existed between the two groups. Pretests and posttests were also administered in written communications, vocabulary, and reading comprehension. The experimental group was given a second vocabulary test so that the proper programed instruction workbook could be assigned to each student in this group. This workbook was completed by the students in the experimental group. The control group received no vocabulary instruction.

The pretest and posttest in written communications were analyzed by three judges according to a rating scale on which a reliability check was made. These scores and the pretests and posttests in vocabulary and reading comprehension were recorded. The data were analyzed using the analysis of covariance technique to determine if significant differences

existed between the experimental and control groups in written communication ability, vocabulary development, and reading comprehension.

In Chapter IV the data will be presented and analyzed relative to the three hypotheses.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The basic purpose of this study was to determine the effectiveness of programed vocabulary instruction in an undergraduate collegiate business communications course in the development of written communication ability and growth in vocabulary and reading comprehension. Hypotheses I, II, and III predicted significant development and growth in written communication ability, vocabulary, and reading comprehension, respectively.

Data Relative to Hypothesis I

Hypothesis I which indicated that there would be a significant difference in the effectiveness of written communication in favor of the experimental group of two groups of undergraduate business communications students when one group received programed instruction in vocabulary improvement and the other group received no direct vocabulary instruction was rejected. Data in Table III present the descriptive statistics relative to this hypothesis.

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TABLE III

DESCRIPTIVE STATISTICS FOR CRITERION 1:
WRITTEN COMMUNICATION

Treatment Group	N	Covariate 1 Intelligence Test Scores		Covariate 2 Pretest		Criterion 1		
		M	S.D.	M	S.D.	Actual Mean	S.D.	Adjusted Mean
Experimental	30	113.70	9.36	34.87	10.24	39.63	9.77	39.77
Control	30	112.50	9.41	36.20	11.19	41.77	13.16	41.63
Total	60	113.08	9.33	35.53	10.66	40.70	11.54	. .

The students in the two Business Communications classes were quite homogeneous in intellectual ability since the experimental group's mean IQ was 113.7 and the control group's mean IQ was 112.50. The standard deviations for the experimental and control groups were 9.36 and 9.41 respectively. The written communications pretest rendered a mean score of 34.87 for the experimental group and a mean score of 36.20 for the control group with standard deviations of 10.24 and 11.19 respectively. On Criterion 1 the experimental group's actual mean was 39.63, while the control group's actual mean was 41.77. The standard deviation for the experimental group was 9.77 and for the control group 13.16 with adjusted means for the two groups of 39.77 and 41.63 respectively.

A statistical test for Hypothesis I is contained in Table IV.

TABLE IV

ANALYSIS OF COVARIANCE FOR CRITERION 1:
WRITTEN COMMUNICATION

Source	DF	Sum of Squares	Mean Square	F	P
Between	1	51.00	51.00	.52	.47
Within	56	5491.02	98.05	. .	. .
Total	57	5542.02	. .	. .	. .

The F value of .52 with dfs of 1.56 render a P value of .47 which indicates that the mean criterion scores after adjustment were not significantly different.

Data Relative to Hypothesis II

Hypothesis II which indicated that there would be a significant difference in vocabulary development in favor of the experimental group in two undergraduate colletgiate business communications classes when one class received programed vocabulary instruction and the other class received no vocabulary instruction was rejected. Data in Table V present the descriptive statistics relative to this hypothesis.

TABLE V

DESCRIPTIVE STATISTICS FOR CRITERION 2:
VOCABULARY

Treatment Group	N	Covariate 1 Intelligence Test Scores		Covariate 2 Pretest		Criterion 2		
		M	S.D.	M	S.D.	Actual Mean	S.D.	Adjusted Mean
Experi- mental	30	113.70	9.36	37.53	5.43	45.50	7.38	45.23
Control	30	112.47	9.41	37.17	5.87	44.07	10.03	44.33
Total	60	113.08	9.33	37.35	5.61	44.78	8.76	. .

Covariate 1, intelligence test scores, was discussed in the data relative to Hypothesis I. The vocabulary pretest rendered a mean score of 37.53 for the experimental group and 37.17 for the control group with standard deviations 5.43 and 5.87 respectively. On Criterion 2 the experimental group's actual mean was 45.50, while the control group's actual mean was 44.07. The standard deviation for the experimental group was 7.38 and for the control group 10.03 with adjusted means for the two groups 45.23 and 44.33 respectively.

A statistical test for Hypothesis II is contained in Table VI.

TABLE VI

ANALYSIS OF COVARIANCE FOR CRITERION 2:
VOCABULARY

Source	DF	Sum of Squares	Mean Square	F	P
Between	1	12.11	12.11	.25	.62
Within	56	2726.41	48.69	. .	. .
Total	57	2738.52	. .	. .	. .

The F value of .25 with dfs of 1, 56 render a P value of
.62, which indicates that the mean criterion scores after ad-
justment were not significantly different.

Data Relative to Hypothesis III

Hypothesis III which indicated that there would be a sig-
nificant difference in reading comprehension in favor of the
experimental group in two undergraduate collegiate business
communications classes when one class received programed vo-
cabulary instruction and the other class received no vocabu-
lary instruction was rejected. Data in Table VII present the
descriptive statistics relative to this hypothesis. .

Covariate 1, intelligence test scores, was discussed in
the data relative to Hypothesis I. The reading comprehension
pretest rendered a mean score of 67.73 for the experimental

TABLE VII

DESCRIPTIVE STATISTICS FOR CRITERION 3:
READING COMPREHENSION

Treatment Group	N	Covariate 1 Intelligence Test Scores		Covariate 2 Pretest		Criterion 3		
		M	S.D.	M	S.D.	Actual Mean	S.D.	Adjusted Mean
Experimental	30	113.70	9.36	67.73	7.47	75.27	9.28	74.79
Control	30	112.47	9.41	67.00	8.95	73.47	12.58	73.95
Total	60	113.08	9.33	67.37	8.18	74.37	11.00	. .

group and 67.00 for the control group with standard deviations

of 7.47 and 8.95 respectively. On Criterion 3 the experimental

group's actual mean was 75.27, while the control group's actual

mean was 73.47. The standard deviation for the experimental

group was 9.28 and for the control group 12.58 with adjusted

means for the two groups 74.79 and 73.95 respectively.

A statistical test for Hypothesis III is contained in

Table VIII.

The F value of .22 with dfs of 1, 56 render a P value of

.64 which indicates that the mean criterion scores after ad-

justment were not significantly different.

TABLE VIII

ANALYSIS OF COVARIANCE FOR CRITERION 3: READING COMPREHENSION

Source	DF	Sum of Squares	Mean Square	F	P
Between	1	10.60	10.60	.22	.64
Within	56	2739.70	48.92	. .	. .
Total	57	2750.30	. .	. .	. .

Summary of Findings

Detailed analyses of the statistical treatment of the quantitative measure for the two treatment groups were presented in this chapter. No statistically significant difference appeared between the two treatment groups in the data collected for Hypotheses I, II, and III.

Chapter V will summarize this study and present conclusions and recommendations.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This research study was an investigation of the effective-
ness of programed vocabulary instruction in an undergraduate
collegiate business communications course. It was hypothe-
sized that programed vocabulary instruction would improve
written communication ability, vocabulary knowledge, and read-
ing comprehension. This chapter contains a summary of the
methods and procedures used to obtain the data, a review of
the findings, conclusions, and recommendations for future
analysis.

Summary of Methods and Procedures

Two undergraduate collegiate business communications
classes participated in this study over a ten-week period.
One class was designated as the experimental group and the
other class was designated as the control group. During the
first week of the study the students in both classes were
given an intelligence test, a reading comprehension test, and
a vocabulary test as well as a letter problem to solve in
written form. The _EDL Word Clues Test_, _Form A_, was administered

to the experimental class in order to determine the level of
programed vocabulary EDL Word Clues Workbook that the students
in this group were to complete during the next ten weeks. Ten
weeks later both classes were given a comparable form of the
reading comprehension and vocabulary test as well as another
letter problem to solve in written form. Both letter composi-
tions were analyzed by three judges to determine the quality
of writing according to a published rating scale developed by
two authorities in business communications. A check on the
reliability of this rating scale was made.

Three hypotheses had been formulated to predict that sig-
nificant differences in favor of the experimental group would
be evident in development of written communication, vocabulary,
and reading comprehension. Analysis of covariance was used
to establish statistical significance.

Summary of Findings

In Chapter IV, where the hypotheses are considered sepa-
rately, tables are presented for the descriptive statistics
and for the statistical test used, analysis of covariance,
for each criterion. Results of the investigation can be sum-
marized in the following findings:

1.   In the improvement of written communication ability, with which Hypothesis I was concerned, there was no statistically significant difference between the experimental group and the control group.   The control group showed slightly more improvement than the experimental group though the difference was not statistically significant.

2.   In the improvement of vocabulary ability, with which Hypothesis II was concerned, there was no statistically significant difference between the experimental group and the control group.   The experimental group showed slightly more improvement than the control group.

3.   In the improvement of reading comprehension, with which Hypothesis III was concerned, there was no statistically significant difference between the experimental group and the control group.   The experimental group showed slightly more improvement than the control group.

Conclusions

Analyses of the findings of this study led to the following conclusions:

1.   The fact that the control group registered as great an improvement or greater improvement in all posttests lends credance to the possibility that increased maturity and the

enriched background received from the general course of study in business communications were relatively more important determinates of increases in reading skills, reading comprehension, and written communication ability than vocabulary training.

2. Improvement in reading comprehension, vocabulary, and written communication may require a longer period of vocabulary training than this study utilized.

3. Although the literature gives great support to the need for improvement in vocabulary and reading comprehension, this study indicates once again the difficulty of improving these abilities through singular or non-sequential programs.

Recommendations

Emanating from this study are the following recommendations for further analysis.

1. Future studies of this nature should endeavor to gather data over a longer period of time.

2. Both the experimental group and the control group should be given weekly tests as well as a final examination on the vocabulary studied in the programed workbook. This would encourage the students to retain the words studied.

3. College business communications teachers need to be more aware of the importance of helping students increase their word power through some type of vocabulary instruction.

4. Additional studies should be conducted in order to determine effective methods for developing students' vocabularies at the collegiate level as well as other educational levels.

5. A cooperative effort should be made by teachers of various disciplines to help students develop better vocabularies.

6. In most studies of this type only one evaluative instrument is used. More than one evaluative instrument for each criterion studied should be used in future studies.

7. Further research is needed to construct better instruments for measuring vocabulary.

APPENDIX

APPENDIX A

CRITERIA FOR JUDGING BUSINESS LETTERS*

Letter _____

The letters are to be rated according to these criteria.
The following five-point scale is to be utilized in rating
each letter according to each criteria:

Points		Rating
5		Outstanding
4		Good
3		Commonplace
2		Poor
1		Rejected

Thus a letter may receive a maximum of twenty-five points or
a minimum of five points when all criteria are considered.

Points

_____ 1. Principle of Unity

  a. Sentence structure
  b. Sentence fragmentation
  c. Loose hook-up
  d. Omission of words
  e. Comma splice

    2. Principle of Coherence

       a. Clarity of total sentence and of sentence parts
       b. Effective order of sentences, paragraphs, entire messages
       c. Logical modification of words, phrases, clauses
       d. Parallelism of words, phrases, clauses
       e. Consistency of viewpoint
       f. Clear reference of pronouns

    3. Principle of Power (Emphasis)

       a. Positioning of key words
       b. Use of conjunctive adverbs (however, therefore, etc.) and other transitions
       c. Use of climax, balance, contrast, or subordination--for emphasis
       d. Use of conciseness to achieve powerful effect

    4. Characteristic of Accuracy

       a. Criteria of accuracy (correctness, timeliness, and authoritative documentation of data)
       b. Common forms of carelessness with data, statements, or formats of messages
       c. Common kinds of incompleteness related to data, word choice, construction of sentences and paragraphs

    5. Characteristic of Word Economy

       a. Emphasis upon conciseness (combination of complete information and brief statement) rather than upon brevity alone
       b. Relationship of courteous tone to concise statement

    *Source: Aurner, Robert R., Instructor's Manual for Effective Communication in Business, Fifth Edition, 1967, p. 51.

APPENDIX B

BUSINESS COMMUNICATIONS*

Pretest Letter

You are a correspondent in the Order Department of a company that carries a line of goods for sports, hunting, fishing, picnicking, and related activities. The following order (signed by L. R. Brock, 2749 Oak Street, Phoenix, Arizona 95022) has come to your desk.

The Sportsman, Inc.
502 Third Street
Duluth, Minnesota 33221

Gentlemen:

Please send me the following items:

1 Folding Picnic Table #382	$12.95
1 Fitted Picnic Case for Six #2165	36.50
1 Sure-Lite Embossed Cigaret	
Lighter #1437	8.25
Total	$58.70

I understand that these articles will be sent postpaid.
My check for $58.70 is enclosed.

Sincerely yours,

Your company is glad to receive this order, but the clerk is having difficulty filling it. The Sure-Lite Embossed Cigaret Lighter comes in a choice of designs: mallard, pheasant

horsehead, or trout rising for fly. The choice was not indicated in the order.

The correct total amount for the order is $57.70 instead of $58.70. You could, of course, send Mr. Brock a check for the $1 overpayment. It is possible, however, that he intended to order flints for the lighter, which are listed as #1720 and sell for 50 for $1.

Compose a reply to Mr. Brock that will gain the needed information.

*Source: Aurner, Robert R., Effective Communication in Business, Fourth Edition, p. 74.

APPENDIX C

BUSINESS COMMUNICATIONS*

Posttest Letter

As owner-manager of the Carpenter Lumber Company, Bridge-port, Texas, you have received an order from Mr. Rush Wages, Route 1, Paradise, Texas, for 100 rough oak boards, 2" by 12" by 18'. He included his check for $203 ($2 for each board and $3 for delivery). You have only 75 of the boards and will not have the other 25 until July 12, two days after the requested delivery date.

In an acknowledgement to Mr. Wages, ask if he would prefer to have you send all 100 of the boards at the same time (two days late), or deliver the 75 oak boards on the specified date and the other 25 when they arrive and at no extra cost. You can finish filling the order with 26 smooth oak boards at an additional cost of $625.

Remind Mr. Wages that these oak boards are guaranteed to have no more than three knotholes each. Moreover, even though you charge for delivery, Mr. Wages will no doubt find this

less expensive and surely less trouble than if he had to pro-
vide the transportation.

*Source: Aurner, Robert R., <u>Effective</u> <u>Communication</u> <u>in</u>
<u>Business</u>, Fourth Edition, p. 212.

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