THE EFFECT OF THE CLOZE PROCEDURE ON ELEMENTARY STUDENTS' READING SKILLS

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Arts in Education: Elementary Reading Improvement

by

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ABSTRACT

THE EFFECT OF THE CLOZE PROCEDURE ON ELEMENTARY STUDENTS' READING SKILLS

by

Katherine Anne Doyle

Master of Arts in Elementary Education
Reading Improvement

The purpose of this study was to investigate the effects of the cloze instructional technique on the reading comprehension and vocabulary development of elementary school children.

The sample, which was comprised of 132 second and fourth-grade subjects, was randomly divided into an experimental group and control group. A pretest-posttest design was utilized. The Gates-MacGinitie Reading Test, Level B and D, Form 1, 2, or 3 was used as a research instrument to measure reading achievement. The Cloze Test was used to provide data on the use of context skills, and the Semantic Differential Attitude Test was employed to measure attitude changes.

Following a pretest, the experimental group received six weeks of cloze instructional training from the investigator, while the control
group received equal time with regular textbook instruction, also
given by the investigator.

An F test was applied to test the hypotheses between the
experimental and control groups. It was also applied to test the
assumption of equal variance prior to selecting the appropriate t-test
formula. The results indicates that reading achievement is enhanced
by the cloze instructional technique, as experimental subjects mea-
sured significant gains in reading comprehension, and vocabulary
development.

The t-test was applied to measure significant differences between
the groups, by grade level, on the variables of reading comprehension,
vocabulary development, context usage—as measured by the cloze tech-
nique, and attitude towards reading.

No significant differences were found on the four variables be-
tween the fourth-grade experimental subjects and fourth-grade control
members. However, significant differences were obtained between
groups, at the second-grade level. Significant differences were
measured in the scores between the second-grade experimental group
and the second-grade control group on the variables of context usage
and attitude towards reading.

The cloze procedure offers educators a variety of techniques for
enhancing reading and language development of elementary school children. However, the possibilities of the use of this technique have not been fully explored. Further investigation is necessary.
CHAPTER I

STATEMENT OF THE PROBLEM

The purpose of this study is to investigate the effects of the cloze instructional technique on the reading comprehension and vocabulary development of elementary school children.

Rationale and Significance for the Study

In today's technical society, competency in reading is becoming even more necessary than in the past. Despite increasing need for reading competency, students are leaving our elementary and secondary schools with inadequate reading skills. A recent article in the Los Angeles Times (8/25/77) reports that, "freshmen entering American colleges this fall have the lowest scholastic aptitude scores in the 51 years that the standardized entrance exam has been used." The study, conducted by former U.S. Labor Secretary, Willard Wirtz, suggests probable causes for the decline in test results as: (1) lowered standards in the subjects of reading and writing, (2) increased television viewing, (3) broken homes, and (4) traumatic societal events such as Vietnam and Watergate.
Particularly in the last decade, educators have become concerned with student's declining achievement and have been showing interest in a process reported to be highly motivating and effective in developing reading skills: the cloze procedure which was devised by Wilson Taylor (1953) as a reading technique, encompasses many aspects of language appreciation. The cloze procedure includes testing of word meaning, language structure, comprehension, grammatical structure and syntax, and offers a potential for teaching these skills as well.

The cloze procedure has been the object of much research in the field of language arts. Often standardized tests are used for measuring reading skills. Because reading is a continuous and complex process, it is difficult to measure levels of skill attainment. Current investigation of the cloze process attempts to provide educators with valid and reliable measurements of reading performance of students. A cloze test can indicate specific reading levels of students. Efficient teaching may be provided when educators can effectively assess a student's appropriate instructional level.

As an instrument measuring reading proficiency or textbook readability, the cloze test is a reliable and valid device. The cloze test consists of completing blanks made by systematically
deleting words in a reading passage. Current research suggests that cloze test scores correlate significantly with scores on traditional reading assessment tests. (Taylor, 1953; Ruddell, 1964; Bormuth, 1968; Bortnick and Lopardo, 1973).

Additional investigation is necessary to determine the usefulness of the cloze procedure as an instructional technique with elementary school children. The cloze procedure may be utilized to benefit the language development of elementary school children as it encompasses the teaching of word meaning, language structure, and grammatical patterns simultaneously.

The cloze procedure also appears to offer educators a useful, new way to teach many language skills. The factors lending significance to the present study include: (1) the need to provide educators with objective data regarding the effects of instruction employing cloze procedures on reading comprehension and vocabulary; and, (2) experimental data relating to the worth of the cloze procedure as a measure of reading comprehension and vocabulary development in the elementary grades.

Definition of Terms

The following definitions were adopted for the purpose of the present study:
**Cloze Procedure:** Cloze procedure requires the deletion of every nth word and its replacement by a blank of standard length from a written passage. The reader is to supply the appropriate word based on the context clues. (See Appendix A for an example of a cloze passage.)

**Cloze Test:** The cloze test consists of reading material with every nth word deleted. The reader replaces the blanks of standard length with grammatically correct and meaningfully appropriate words. A cloze score is the number of correct responses computed. A cloze score representing a student's independent reading level is usually indicated by 57% and higher. A cloze score representing a student's instructional level usually falls in the 44% to the 57% range. A cloze score representing the student's frustration level is usually indicated by 43% or lower.

**Independent Reading Level:** At the independent reading level, a child can function adequately without teacher help. Comprehension should average 90%, and word recognition should average 99% (Betts, 1946).

**Instructional Reading Level:** At the instructional reading level, a child can function adequately with teacher guidance and yet be challenged to stimulate his reading growth. Comprehension should
should average 75%, and word recognition should average 95% (Betts, 1946).

Frustration Reading Level: At the frustration reading level, a child often shows signs of tension and discomfort. Vocalization is often present. Comprehension averages 50% or less, and word recognition averages 90% or less (Betts, 1946).
Research Questions

Twelve essential questions were asked in the present study:

1. Does instruction employing the cloze procedure effect reading comprehension for elementary students?

2. Does instruction employing the cloze procedure effect reading comprehension for second-grade students?

3. Does instruction employing the cloze procedure effect reading comprehension for fourth-grade students?

4. Does instruction employing the cloze procedure effect vocabulary development for elementary students?

5. Does instruction employing the cloze procedure effect vocabulary development for second-grade students?

6. Does instruction employing the cloze procedure effect vocabulary development for fourth-grade students?

7. Does instruction employing the cloze procedure effect attitude toward reading for elementary students?

8. Does instruction employing the cloze procedure effect attitude toward reading for second-grade students?

9. Does instruction employing the cloze procedure effect attitude toward reading for fourth-grade students?
10. Does instruction employing the cloze procedure effect cloze test scores for elementary students?

11. Does instruction employing the cloze procedure effect cloze test scores for second-grade students?

12. Does instruction employing the cloze procedure effect cloze test scores for fourth-grade students?
Research Hypotheses

The present study was designed to test and analyze the twelve null hypotheses:

$H_0_1$: There will be no significant difference in the posttest mean scores on reading comprehension between the experimental and control groups as measured by the Gates-MacGinitie Reading Test, when using the cloze procedure as an instructional technique.

$H_0_2$: There will be no significant difference in the posttest mean scores on reading comprehension between the experimental and control groups of second-grade students as measured by the Gates-MacGinitie Reading Test, when using the cloze procedure as an instructional technique.

$H_0_3$: There will be no significant difference in the posttest mean scores on reading comprehension between the experimental and control groups of fourth-grade students as measured by the Gates-MacGinitie Reading Test, when using the cloze procedure as an instructional technique.

$H_0_4$: There will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups as measured by the Gates-MacGinitie Reading Test, when using
the cloze procedure as an instructional technique.

**H_0_5:** There will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups of second-grade students as measured by the Gates-MacGinitie Reading Test, when using the cloze procedure as an instructional technique.

**H_0_6:** There will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups of fourth-grade students as measured by the Gates-MacGinitie Reading Test, when using the cloze procedure as an instructional technique.

**H_0_7:** There will be no significant difference in the posttest mean scores on the attitude of reading between the experimental and control groups as measured by the Semantic Differential Attitude Scales, when using the cloze procedure as an instructional technique.

**H_0_8:** There will be no significant difference in the posttest mean scores on the attitude of reading between the experimental and control groups of second-grade students as measured by the Semantic Differential Attitude Scales, when using the cloze procedure as an instructional technique.
Hog: There will be no significant difference in the posttest mean scores on the attitude of reading between the experimental and control groups of fourth-grade students as measured by the Semantic Differential Attitude Scales, when using the cloze procedure as an instructional technique.

Ho10: There will be no significant difference in the posttest mean scores on The Cloze Test between the experimental and control groups, when using the cloze procedure as an instructional technique.

Ho11: There will be no significant difference in the posttest mean scores on The Cloze Test between the experimental and control groups of second-grade students, when using the cloze procedure as an instructional technique.

Ho12: There will be no significant difference in the posttest mean scores on The Cloze Test between the experimental and control groups of fourth-grade students when using the cloze procedure as an instructional technique.

Limitations of the Study

This study is conducted at two separate private elementary schools, drawing children from middle class socio-economic backgrounds. Consequently, different classroom teachers are used for the four groups. The results of this study may be applicable only to similar populations of middle class children.
CHAPTER II
REVIEW OF RELATED LITERATURE

The purpose of this study is to investigate the effect of the cloze instructional technique on the reading comprehension and vocabulary development of elementary school children. This chapter summarizes the literature pertaining to (1) the background of the cloze procedure, (2) the use of the cloze test in the classroom, (3) interpretation and scoring of the cloze test, and (4) the use of the cloze procedure as an instructional aid in the classroom.

Background

The cloze technique, as devised by Wilson Taylor in 1953, has been used to measure reading comprehension, language proficiency, knowledge of vocabulary, difficulty of reading materials, and even the student's I.Q. (Oller and Conrad, 1971). Wilson Taylor adapted the word "cloze" from the Gesalt psychologists concept of closure which means filling in the missing parts and "closing up the gaps," to see things as we think they should exist. The human tendency to
complete the drawing of this figure: ○, is an example of closure. One can complete the broken circle because its shape or pattern is so familiar. The same principle applies to language. Given the example, "Cows moo and _______ bark," almost anyone can correctly supply the word "dogs," (Although some dialects may say "dog"). Thus, the person scores one cloze unit for closing the gap in the language pattern.

William Taylor conceptualizes the cloze procedure as "Throwing all potential readability influences in a pot, letting them interact, then sampling the result" (1953, p. 417). In other words, when completing the cloze, one must recognize what the mutilated sentence means as a whole, and then complete its pattern to fit the whole meaning. Since Taylor's introduction of the cloze procedure 24 years ago, much research has been done in the area of demonstrating its effectiveness in the area of reading.

The cloze procedure is an automatic word deletion process. It is the student's task to correctly replace the missing word. In making his word prediction, the student must use his prior knowledge of word usage (Culhane, 1970). (See cloze sample in Appendix A.) The cloze procedure encompasses many aspects of language ability. The student is forced to pay close attention to the style and vocabulary used in the passage and deal with units of thought. When
completing the standardized blank with an appropriate word, comprehension involves more than the understanding of lexical items; comprehension of grammatical form is also necessary, with knowledge of semantic and syntactical clues.

**Cloze Tests**

Originally, Taylor, (1953) applied the cloze procedure as a technique for measuring readability and comprehension of reading materials. Taylor's findings showed that cloze passages measured difficulty levels similar to the Flesch (1949) and Dale-Chall (1948) readability formulas.

Subsequent investigations (Taylor, 1956) found that correlations of cloze tests with other comprehension tests ranged from .70 to .88; indicating that while measuring readability, the cloze test also measured reading comprehension.

Investigators have examined the validity of cloze tests as a measure of comprehension. Ruddell (1964) reports reliability coefficients as high as .95. When using fourth, fifth, and sixth-grade students for an experimental study, Bormuth (1962) found correlations from .88 to .93 on cloze tests and passages measured by multiple choice tests.
Cloze tests may be constructed and administered in a variety of ways. Most commonly every fifth word is automatically deleted. Potter (1968) employed various methods of constructing cloze tests for evaluating reading comprehension of students in upper elementary grades. When every fifth word is deleted, correlations of cloze test scores with the Stanford Achievement Test scores ranged from .79 to .85. When every tenth word was deleted, correlations of .77 to .88 were reported. Empirical evidence from employing two instructional treatments, two types of deletion rates, including subjects with high and low reading ability, yielded significant correlations ranging from .27 to .88.

Research by Potter (1968) suggests that the most valid and reliable cloze test is one which:

1. an every n$^{th}$ mechanical mutilation system was used.
2. not more than 20 words out of every 100 are deleted.
3. passage length is at least 250 words.
4. deletion ratios of 1:10 and 1:12 in longer passages may be valid for certain purposes.
5. at least 50 words should be deleted in order to insure adequate sampling of passages.
6. the exact word deleted is indicated as the most useful and efficient scoring criteria.
7. other scoring systems (synonym, form class) provide less inter-scorer reliability and require substantially more time.
8. the separate scoring of form classes or content and function words may provide specific information for specialized purposes.
Interpretation of Cloze Test Scores

When interpreting the cloze test scores, content area of the cloze passage influences the correlation between the cloze score and the standardized test score. When Aquino (1968) correlated the subject of science cloze passages with the Stanford Reading Achievement Test, a correlation of .51 was established (Moy, 1975). Ruddell (1964) performed and correlational study using high frequency sentence patterns in cloze passages. The latter cloze passage had a higher correlation with the Paragraph Meaning Test; a subtest of the Stanford Reading Achievement Test. (See Table 1.)

Moy (1975) states that although validity of cloze test scores appears to be substantiated by literature, a related problem lies in the fact that educators need a model of how the cloze procedure should work. With a model, predictions could be made regarding the results of the cloze passages. Then researchers could test the various aspects of the model to improve its validity.

Educators often use standardized reading tests to determine student's reading levels. Cloze test scores may also significantly determine a student's correct reading placement in terms of percentages. However, a problem that prevents educators from fully utilizing the cloze test, is that raw cloze scores (or percentage
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*Taken from Moy, 1975.*
scores) are difficult to interpret except in relation to other raw cloze scores. More difficult reading material will yield a lower mean cloze score than easier reading material, but little information is gained from mean scores regarding the difficulty of the reading material. When educators have a model cloze score, they have established a frame of reference to interpret an acceptable level of performance on cloze tests.

Recent research has attempted to provide educators with a frame of reference for interpreting the cloze test scores. Bormuth (1968 and 1969) administered cloze tests and multiple choice comprehension tests in an experimental study. Bormuth interpreted scores using Betts (1946) criteria and concluded that a cloze score of 57% and over, was equal to the student's independent reading level, a score between 44% and 57% indicated the student's instructional level, and 43% and lower, was indicative of the student's frustration level.

However, researchers do not always agree on the reading levels of a particular passage. Alexander (1972) interpreted cloze test scores with correlated scores from informal reading inventories of graded basal textbooks. Alexander reported reading level criteria for the cloze procedure as: a score of 62% or above, as the student's independent level, a score between 47% and 61% as the student's instructional level, and a score below 47% as the student's frustra-
tion level. In recent years, Bortnick and Lopardo (1973) made a pertinent point stating that if a student's cloze score was 65% or above, the material was considered too easy and the student would not be gaining enough "new" information.

When using first grade children who had been receiving different types of reading instruction, Kirchhoff (1968) investigated the relationship between scores on cloze tests and an informal reading inventory. Significant correlations were found at the instructional and frustrational reading levels; indicating usefulness of the cloze procedure for determining student reading levels.

The cloze tests may be used as testing instruments because of their high reliability and validity, especially in the content area. The value of the cloze procedure in terms of ease of construction, administration, scoring, and interpretation of results has been noted by Rankin (1969), Ransom (1965), and Kirchhoff (1968).

The interpretation of the cloze test scores is still in need of research. Recent research suggests consistent reliability of cloze test when measured with multiple choice or completion-type comprehension tests. The cloze test appears to offer a convenient method for providing classroom teachers with feedback on how effectively the students are comprehending.
Scoring the Cloze Test

There are several ways to score a cloze test. Basically, the scoring methods are of two types: exact word (EW) scoring and acceptable alternative (AA) scoring. EW scoring is the most objective method because the correct answer is one which matches exactly the original deleted word. A variation of this method is to accept responses which vary from the exact word deletion only because of misspelling or capitalization. The principal reason for using the EW method is for objectivity and speed.

A cloze response which is grammatically and semantically acceptable, can be scored as correct when using the AA method. The range of accepting an answer depends on the scorer. Scoring consistency is required when using this method. Often there are borderline cases involving decisions as to the grammaticality or the usage of a certain word. A record must be kept of the possible correct responses, to insure scoring consistency among the subjects. The process of making scoring decisions on every item requires a high degree of competence on the scorer's part and can be very time-consuming.

For testing purposes, the most valid and economical results are obtained by exact word (EW) replacement (Bormuth, 1965 and Rankin, 1957). Culhane (1970, p. 412) pointed out that, "it is possible
that synonyms could be scored as correct, but this would make scoring cumbersome and lead to arbitrary decisions regarding the worth of the synonym as a replacement. Anderson (1972) stated in his research of cloze testing material, that scoring exact word replacements consistently yielded similar results as the more complex schemes of scoring.

However, when cloze exercises are used for teaching, synonyms for deleted words may be accepted, since "exact word only" replacements can limit the vocabulary development of students or produce negativity with creativeness in language development.

The Cloze Technique as an Instructional Method

The cloze procedure has been suggested as a way to focus a learner's attention on developing syntactical and contextual cues as aids in word recognition and meaning. Cloze passages seem to force the student to deal with the syntactic and semantic cue systems of the written language. Coping with the author's cue system is a process that all students may need to master to fully comprehend the author's written message.
When using the cloze procedure as a teaching tool, answers that are grammatically and semantically correct are accepted. For example, in the sentence, "The student was reading a ________," many answers could be accepted. As a teaching device, this is an advantage and seen as a strength of the technique. According to Pikulski (1976), children live far too much under the tyranny of "the right answer." Students should be allowed to discuss their answers in class and learn from each other. Asking students to take a chance at a possible word substitution and then having them support their answers, develops self-confidence and pride in their decisions.

In the past, the cloze procedure has been utilized primarily as a testing technique. As stated by Gove (1975), Jongsma (1971), Spooncer (1974), Blayeat and Norman (1975) and Cohen (1975), instructional benefits for the use of the cloze procedure needs to be recognized for classroom use. These authors present favorable evidence about the successes of the cloze technique when used as an instructional aid in the classroom.

Research related to measuring the effects of the cloze procedure as an instructional technique is limited. Faubion (1972) prepared a study to measure the effect of cloze procedure upon reading comprehension with 90 fourth-grade students. A specific
number were trained with cloze exercises; emphasizing the use of structure words. For example, two experimental groups and control groups were used with a pretest-posttest design. Half the cloze exercises utilized the fifth-word deletion pattern and the other half utilized the structure-word deletion pattern. The results indicated no significant difference in reading comprehension gains. However, there was a significant difference in performance between students who received cloze training and those students who did not receive cloze training.

Selected deletions on a cloze passage can be helpful in teaching certain concepts. A cloze passage constructed with noun and/or verb deletions is most beneficial to teaching students the concepts of noun and verb on a very concrete level (Myers, 1976). Modified deletions include the deletions of structural parts of words (prefix, root, or suffix) to teach word analysis. Certain phoneme-graphme correspondences may be deleted (clusters, vowel sounds, etc.) to teach word attack strategies.

The LEA-Cloze procedure used such strategies as selecting certain troublesome word groups (e.g. structural words deleted, only) and developed instructional methods for the cloze procedure. Lopardo (1975) and also Balyeat and Norman (1975), found that a cloze test made from student's language experience stories,
provided them with a comprehension assessment using the student's own language. Balyeat and Norman (1975, p. 556), researched cloze for indicators of comprehension that would:

1. provide an indication of reading achievement for initial reading groups at the beginning of the year,
2. be administered to an entire class at one setting,
3. be easily scored and interpreted by teachers, and
4. relate to the language and experience of rural mountain children.

Thus, they developed LEA-Cloze and found it accessible for testing reading levels and also as a useful instructional method for the disadvantaged mountain children.

Paradis and Bayne (1975) also conducted a study using average primary grade students in an attempt to evaluate the effect of systematic instruction with cloze tasks on the student's reading achievement. The materials for the cloze tasks were drawn from the basal reading material from which the student's worked regularly. Twenty-nine first and second-grade pupils were involved in the study for a period of eight weeks. A posttest only, control-group design was used. The test results indicated that the cloze treatment was a successful program when compared with the treatment of self-selection reading and phonetic reinforcement activities.
Only within the recent years have researchers attempted to compare traditional reading instruction with the cloze instruction method. Gove (1975) used the LEA-Cloze modified-deletion patterns (noun and/or verb) as instructional aids to supplement the basal reading program for her first grade classroom. Students filled in the deletions orally at first, and then as their skills increased, the students wrote in the blanks. Gove found the cloze procedure to be complimentary to the regular classroom reading instruction and language skills development.

In summary, the review of the literature reveals the attributes of the cloze test as a measuring instrument. However, research also states the difficulty of correlating cloze test scores with an equivalent reading level and other standardized tests. Studies employing the instructional techniques of the cloze procedure are limited. However, researchers have reported both significant and non-significant results regarding student achievement in reading comprehension and vocabulary skills when utilizing the cloze procedures as an instructional technique.

Thus, the present study is designed to provide more experimental data on the instructional effectiveness of the cloze procedure in the elementary classrooms and to make educators aware of the instructional alternatives that the cloze procedure offers. In fact,
the cloze method is unknown in many classrooms today. It is unfortunate that the cloze procedure is not more familiar to educators. Encouraging children to deal with the nature and complexity of syntactic and semantic uses of language may develop richer understanding of the total reading process.
CHAPTER III

RESEARCH DESIGN AND PROCEDURES

The purpose of this study is to investigate the effects of the cloze instructional technique on the reading comprehension and vocabulary development of elementary school children.

This chapter describes: (1) Selection of the sample, (2) the research design and procedures, and, (3) the research instrument.

The Sample

The sample was comprised of 132 students in the second and fourth grades of two, private, elementary schools in the San Fernando Valley. The two schools appear to draw from the same socioeconomic background and similar environmental surroundings. The vast majority of the students are of Anglo descent. Reading achievement data, gathered from the Gates-MacGinitie Reading Test, seems to indicate that the reading abilities in the area of vocabulary and comprehension, from the two separate schools are similar.
No significant differences were found, as indicated in Table II. Each school has one second and fourth grade classroom, taught by lay teachers. One male and one female teacher from each school is represented in the sample.

The 132 students were randomly divided into experimental groups of 66 members and a control group with 66 members. Within each group, approximately one-half of the subjects were second graders and the remaining half comprised the fourth graders. Thus, each classroom participated equally in the experimental and control groups. (See Chart I for illustration of the sample.)

Three tests were administered to the sample, under pretest conditions to establish the equivalency of the experimental and control groups: The Gates-MacGinitie Reading Test, The Cloze Test, and the Semantic Differential Attitude Scales. Table III includes the data concerning mean pretest reading scores of the experimental and control groups, while Table IV indicates the mean pretest reading scores of the experimental and control groups by grade level. Table V presents the mean cloze pretest scores of the experimental and control groups, while Table VI shows the mean cloze test scores by group and grade level. Table VII includes the mean attitude pretest, and Table VIII presents the findings of the mean attitude pretest scores by group and grade level.
Table II

COMPARISON OF SCHOOLS AS MEASURED BY
THE GATES-MAC GINITIE READING PRETEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Voc. Scores</th>
<th>S.D.</th>
<th>F</th>
<th>Mean Comp. Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>School X</td>
<td>63</td>
<td>55.984</td>
<td>8.095</td>
<td>.075*</td>
<td>52.888</td>
<td>8.122</td>
<td></td>
</tr>
<tr>
<td>School Y</td>
<td>69</td>
<td>56.376</td>
<td>8.365</td>
<td></td>
<td>53.289</td>
<td>8.326</td>
<td></td>
</tr>
</tbody>
</table>

* No significant differences between schools.
CHART I

THE SAMPLE

132 Second and Fourth-grade Subjects

66 Experimental Subjects

32 Second-Graders

34 Fourth-Graders

66 Control Subjects

30 Second Graders

36 Fourth Graders
Table III

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS
AS MEASURED BY THE GATES-MAC GINITIE READING PRETESTS

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Voc. Scores</th>
<th>S.D.</th>
<th>F</th>
<th>Mean Comp. Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>57.484</td>
<td>8.158</td>
<td></td>
<td>53.545</td>
<td>8.559</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.347*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>54.893</td>
<td>8.112</td>
<td></td>
<td>52.651</td>
<td>7.865</td>
<td></td>
</tr>
</tbody>
</table>

* No significant difference between groups.
Table IV

STANDARD MEAN SCORES OF EXPERIMENTAL AND CONTROL GROUPS
BY GRADE LEVELS, AS MEASURED
BY THE GATES-MAC GINITIE READING PRETESTS

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Voc. Scores</th>
<th>S.D.</th>
<th>F</th>
<th>Mean Comp. Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Grade Experimental Group</td>
<td>32</td>
<td>61.656</td>
<td>5.463</td>
<td>1.60*</td>
<td>57.593</td>
<td>5.186</td>
<td>1.83*</td>
</tr>
<tr>
<td>Second Grade Control Group</td>
<td>30</td>
<td>59.333</td>
<td>6.900</td>
<td></td>
<td>56.933</td>
<td>7.022</td>
<td></td>
</tr>
<tr>
<td>Fourth Grade Experimental Group</td>
<td>34</td>
<td>53.558</td>
<td>8.385</td>
<td>1.36*</td>
<td>49.735</td>
<td>9.392</td>
<td>1.95*</td>
</tr>
<tr>
<td>Fourth Grade Control Group</td>
<td>36</td>
<td>51.194</td>
<td>7.198</td>
<td></td>
<td>49.083</td>
<td>6.725</td>
<td></td>
</tr>
</tbody>
</table>

* No significant differences between groups by grade level.
Table V

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS
AS MEASURED BY THE CLOZE PRETEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Cloze Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>16.787</td>
<td>7.006</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>16.545</td>
<td>7.300</td>
<td>0.038*</td>
</tr>
</tbody>
</table>

*No significant difference between groups.*
Table VI

STANDARD MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS BY GRADE LEVELS, FROM THE CLOZE PRETEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Cloze Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Grade Experimental Group</td>
<td>32</td>
<td>14.125</td>
<td>5.735</td>
<td>2.03*</td>
</tr>
<tr>
<td>Second Grade Control Group</td>
<td>30</td>
<td>14.100</td>
<td>8.181</td>
<td></td>
</tr>
<tr>
<td>Fourth Grade Experimental Group</td>
<td>34</td>
<td>19.294</td>
<td>7.243</td>
<td>1.54*</td>
</tr>
<tr>
<td>Fourth Grade Control Group</td>
<td>36</td>
<td>18.583</td>
<td>5.843</td>
<td></td>
</tr>
</tbody>
</table>

* No significant difference between groups by grade levels.
Table VII

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS
AS MEASURED BY THE PRETEST OF THE SEMANTIC
DIFFERENTIAL ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Attitude Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>38.090</td>
<td>9.906</td>
<td>.004*</td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>37.984</td>
<td>9.646</td>
<td></td>
</tr>
</tbody>
</table>

* No significant difference between groups.
Table VIII

STANDARD MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS BY GRADE LEVEL, FROM THE PRETEST OF THE SEMANTIC DIFFERENTIAL ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Attitude Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Grade Experimental Group</td>
<td>32</td>
<td>38.750</td>
<td>8.883</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.35*</td>
</tr>
<tr>
<td>Second Grade Control Group</td>
<td>30</td>
<td>38.533</td>
<td>10.318</td>
<td></td>
</tr>
<tr>
<td>Fourth Grade Experimental Group</td>
<td>34</td>
<td>37.470</td>
<td>10.880</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.41*</td>
</tr>
<tr>
<td>Fourth Grade Control Group</td>
<td>36</td>
<td>37.527</td>
<td>9.173</td>
<td></td>
</tr>
</tbody>
</table>

* No significant difference between groups by grade level.
Research Design and Procedure

A pretest-posttest, control group design was utilized for the purpose of measuring reading achievement and attitude differences when employing the cloze procedure as an instructional technique.

All subjects received their regular, daily, reading instruction from their classroom teacher using a basal textbook series. Following the pretest, each group met with the investigator for one-half hour every other school day for a period of six weeks. The investigator met with the control group to assist the classroom teacher in developing reading skills that were presently being taught from the basal textbook series.

The experimental group was instructed in the cloze technique by the investigator. The group was orientated to the cloze procedures, by orally reading stories from unfamiliar basal textbooks in which one word in each sentence had been deleted. During this exercise, the subjects were randomly paired together, and took turns practicing the modified cloze technique for two sessions.

During each of the following sessions, the experimental subjects were given a cloze exercise in which every fifth word had
been deleted. The cloze stories were taken from unfamiliar, graded basal textbooks. The readability level was approximately one year lower than the group's mean reading level.

As Bormuth (1965) suggests, the length of each cloze passage for the second and fourth grade students was 250 words: offering 50 blanks for completion. The experimental subjects of the second and fourth grades completed a cloze exercise by filling in the fifty blanks of standard length with a grammatically correct and a meaningfully appropriate word. When the subjects finished the cloze exercise, they were given the remainder of the story to read silently.

While employing the cloze procedure as an instructional technique, acceptable alternative (AA) scoring was used, as Pikulski (1976) recommends. Thus, answers that were grammatically and semantically correct, were accepted. The completed cloze exercises were returned to the subjects at the following session, so they could discuss their answers and state reasons for their word selections.

Research Instruments

The pretest, posttest instrument used to assess reading comprehension and vocabulary skills was the Gates-MacGinitie Reading Test. The second grade classes were given Level B, Form 1, for
the pretest and Level B, Form 2, for the posttest. The fourth
g graders were given Level D, Form 1 and 3, respectively. The
Gates-MacGinitie Reading Test was chosen because of its high reliabil­
ity and ease of administration. (Burros, 1969) The Gates­
MacGinitie Reading Technical Manual (1972) reports a reliability
from .81 to .87; and a split-half reliability from .88 to .94.

The Gloze Test used to assess reading achievement was composed
from unfamiliar basal textbooks. The second-grade Cloze Test was
It's readability level, as measured by the publisher, is at the
basic primer level. The fourth-grade Cloze Test was taken from
Around The Corner, published by Ginn and Company, 1957. The read­
ability, determined by the publisher, is the second semester, second
grade.

The Cloze Tests were scored by the exact word (EW) method.
Misspellings and capitalizations were not counted as wrong if the
word was identifiable. Directions for administering the cloze test
can be found in the sample exercises in Appendix A. The number
of correct cloze units were totaled to measure the student's score.

All students in the sample were also given the Semantic
Differential Attitude Scales; a test developed by Osgood in 1957.
The Semantic Differential Attitude Scales was chosen because of its qualities of, (1) objectivity, (2) reliability, (3) validity, (4) sensitivity, and (5) comparability. Shaw and Wright (1967) found reliabilities on the Semantic Differential Attitude Scales to be from .83 to .91.

Directions for the attitude test were given orally and examples were included in the explanation. The students studied the five pairs of words and placed one mark accordingly, in each row, based on the single concept of reading. An average score was totaled for each student, and a mean score for each group was computed. (See Appendix B for a sample of the Semantic Differential Attitude Scales.)
CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Chapter four explains the statistical procedure used, presents the data, and analyzes the results of the study.

Treatment of the Data

An F test was applied to test the hypotheses between the experimental and control groups. It was also applied to test the assumption of equal variance prior to selecting the appropriate t-test formula. A t-test was applied to the hypotheses comparing experimental and control groups by grade level. Each hypotheses was treated independently. When an F or t-value was found to be significant at the .05 level of confidence, for a given hypothesis, the null hypothesis was rejected. When the F value or t-value was not significant, the null hypothesis was not rejected.

Presentation of the Data

$H_0$: The null hypothesis states that there will be no significant difference between the posttest mean scores on reading compre-
hension between the experimental and control groups as measured by the Gates-MacGinitie Reading Tests. Table 9 presents the results that tend to support the hypothesis that there is a significant difference in the scores of the experimental and control groups. Therefore, the null hypothesis is rejected at the .05 level of confidence. The data suggests that the experimental subjects in the second and fourth grades made significant gains in the area of reading comprehension.

\( H_0_2: \) The null hypothesis states that there will be no significant difference in the posttest mean scores on reading comprehension between the experimental and control groups of second-grade students as measured by the Gates-MacGinitie Reading Test. The findings in Table 10 indicate that the t-value is not significant at the .05 level of confidence. Thus, the null hypothesis is not rejected.

\( H_0_3: \) The null hypothesis states that there will be no significant difference in the posttest mean scores on reading comprehension between the experimental and control groups of the fourth-grade students as measured by the Gates-MacGinitie Reading Test. The results presented in Table 11 indicates that no significant differences were found between the experimental and control groups at the fourth-grade level. Consequently, the null hypothesis is not rejected.
TABLE IX

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS ON READING COMPREHENSION AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Comprehension Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>59.227</td>
<td>7.191</td>
<td>4.876*</td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>55.818</td>
<td>10.276</td>
<td></td>
</tr>
</tbody>
</table>

*Significance < .05 level of confidence
TABLE X

COMPREHENSION MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF THE SECOND-GRADE STUDENTS, AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Comprehension Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second-Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Group</td>
<td>32</td>
<td>63.312</td>
<td>4.091</td>
<td>-1.97*</td>
</tr>
<tr>
<td>Control Group</td>
<td>30</td>
<td>58.466</td>
<td>12.907</td>
<td></td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade level
### TABLE XI

COMPREHENSION MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF THE FOURTH-GRADE STUDENTS, AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Comprehension Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth-Grade Experimental Group</td>
<td>34</td>
<td>55.382</td>
<td>7.398</td>
<td>-1.04*</td>
</tr>
<tr>
<td>Fourth-Grade Control Group</td>
<td>36</td>
<td>53.611</td>
<td>6.859</td>
<td></td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade level
Ho₄: The null hypothesis states that there will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups as measured by the Gates-MacGinitie Reading Tests. The data in Table 12 tends to support the hypothesis, as there is a significant difference indicated between the groups. Hence, the null hypothesis is rejected at the .05 level of confidence.

Ho₅: The null hypothesis states that there will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups of second-grade students, as measured by the Gates-MacGinitie Reading Test. The findings in Table 13 indicate that the t-value is not significant at the .05 level of confidence. Thus, the null hypothesis is not rejected.

Ho₆: The null hypothesis states that there will be no significant difference in the posttest mean scores on vocabulary development between the experimental and control groups of fourth-grade students, as measured by the Gates-MacGinitie Reading Test. The data in Table 14 suggests that there is no significant difference in the scores of the experimental and control groups at the fourth-grade level. Thus, the null hypothesis is not rejected.

Ho₇: The null hypothesis states that there will be no significant difference in the posttest mean scores on attitude of reading,
TABLE XII

VOCABULARY MEAN SCORES OF EXPERIMENTAL AND CONTROL GROUPS
AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Vocabulary Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>62.742</td>
<td>5.679</td>
<td>6.401*</td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>59.090</td>
<td>10.257</td>
<td></td>
</tr>
</tbody>
</table>

*Significance < .05 level of confidence
TABLE XIII

VOCABULARY MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF THE SECOND GRADE STUDENTS, AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Vocabulary Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second-Grade Experimental Group</td>
<td>32</td>
<td>65.093</td>
<td>4.748</td>
<td></td>
</tr>
<tr>
<td>Second-Grade</td>
<td>30</td>
<td>60.866</td>
<td>13.177</td>
<td>-1.66*</td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade levels*
TABLE XIV

VOCABULARY MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUP OF THE FOURTH-GRADE, AS MEASURED BY THE GATES-MAC GINITIE READING POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Vocabulary Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth-Grade Experimental Group</td>
<td>34</td>
<td>60.529</td>
<td>5.653</td>
<td></td>
</tr>
<tr>
<td>Fourth-Grade Control Group</td>
<td>36</td>
<td>57.611</td>
<td>6.825</td>
<td>1.95*</td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade level
between the experimental and control groups, as measured by the Semantic Differential Attitude Scales. The findings tend to support the hypothesis that there is a significant difference in the scores of the experimental and control groups, as seen in Table 15. Therefore, the null hypothesis is rejected at the .05 level of confidence.

\[ H_{0_8} : \] The null hypothesis states that there will be no significant difference in the posttest mean scores on the attitude of reading between the experimental and control groups of second-grade students, as measured by the Semantic Differential Attitude Scales. The findings in Table 16 tend to support the hypothesis that there is a significant difference in the posttest mean scores between the two groups. Thus, the null hypothesis is rejected at the .05 level of confidence.

\[ H_{0_9} : \] The null hypothesis states that there will be no significant difference in the posttest mean scores on the attitude of reading between the experimental and control groups of fourth-grade students, as measured by the Semantic Differential Attitude Scales. The findings presented in Table 17 imply no significant differences in the scores of the experimental and control groups at the fourth-grade level. The null hypothesis is not rejected.

\[ H_{0_{10}} : \] The null hypothesis states that there will be no signifi-
TABLE XV

COMPARISON OF EXPERIMENTAL AND CONTROL GROUP ON ATTITUDE TOWARD READING, AS MEASURED BY THE POSTTEST OF SEMANTIC DIFFERENTIAL ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Attitude Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>44.030</td>
<td>7.081</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>40.606</td>
<td>8.902</td>
<td>5.980*</td>
</tr>
</tbody>
</table>

*Significance < .05 level of confidence
TABLE XVI

ATTITUDE MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF THE SECOND-GRADE STUDENTS, AS MEASURED BY THE POSTTEST OF SEMANTIC DIFFERENTIAL ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Attitude Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second-Grade Experimental Group</td>
<td>32</td>
<td>44.687</td>
<td>6.438</td>
<td>-2.16*</td>
</tr>
<tr>
<td>Second-Grade Control Group</td>
<td>30</td>
<td>39.733</td>
<td>10.875</td>
<td></td>
</tr>
</tbody>
</table>

*Significance < .05 level of confidence
TABLE XVII

ATTITUDE MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF THE FOURTH-GRADE STUDENTS, AS MEASURED BY THE POSTTEST OF SEMANTIC DIFFERENTIAL ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Attitude Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth-Grade Experimental Group</td>
<td>34</td>
<td>43.411</td>
<td>7.684</td>
<td></td>
</tr>
<tr>
<td>Fourth-Grade Control Group</td>
<td>36</td>
<td>41.333</td>
<td>6.928</td>
<td>-1.19</td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade levels*
cant difference in the posttest mean scores on The Cloze Test, between the experimental and control groups. The results in Table 18 tend to support the hypothesis that there is a significant difference in the posttest mean scores between the two groups. Thus the null hypothesis is rejected at the .01 level of confidence.

H011: The null hypothesis states that there will be no significant difference in the posttest mean scores on The Cloze Test, between the experimental and control groups of second-grade students. Table 19 displays the data that implies a significant difference in the scores of the experimental and control groups of second-grade students. Thus, the null hypothesis is rejected at the .01 level of confidence.

H012: The null hypothesis states that there will be no significant difference in the posttest mean scores on The Cloze Test, between the experimental and control groups of fourth-grade students. The data in Table 20 suggests no significant difference in the scores of the experimental and control groups of fourth-grade students. Consequently, the null hypothesis is not rejected.
TABLE XVIII

COMPARISON OF THE EXPERIMENTAL AND CONTROL GROUPS GROUPS ON THE CLOZE POSTTEST

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Cloze Scores</th>
<th>S.D.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>66</td>
<td>30.212</td>
<td>5.776</td>
<td>9.123*</td>
</tr>
<tr>
<td>Control</td>
<td>66</td>
<td>26.227</td>
<td>9.027</td>
<td></td>
</tr>
</tbody>
</table>

*Significance < .01 level of confidence
<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Cloze Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second-Grade Experimental Group</td>
<td>32</td>
<td>32.625</td>
<td>4.969</td>
<td>-2.81*</td>
</tr>
<tr>
<td>Second-Grade Control Group</td>
<td>30</td>
<td>26.000</td>
<td>11.986</td>
<td></td>
</tr>
</tbody>
</table>

*Significance < .01 level of confidence
### TABLE XX

CLOZE POSTTEST MEAN SCORES OF THE EXPERIMENTAL AND CONTROL GROUPS OF FOURTH-GRADE STUDENTS

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Cloze Scores</th>
<th>S.D.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth-Grade Experimental Group</td>
<td>34</td>
<td>27.941</td>
<td>5.619</td>
<td></td>
</tr>
<tr>
<td>Fourth-Grade Control Group</td>
<td>36</td>
<td>26.416</td>
<td>5.679</td>
<td>-1.13*</td>
</tr>
</tbody>
</table>

*No significant differences between groups by grade level.*
Summary

The experimental group of 66 subjects was compared to the control group of 66 members. Four hypotheses were conducted to measure variable differences in the area of reading comprehension, vocabulary development, context usage as measured by the cloze technique, and attitude towards reading. An analysis of variance was applied to test these hypotheses. The F test results indicated a significant difference in the scores of the experimental and control group on each of the four hypotheses. The experimental group made significant gains in the area of reading comprehension, vocabulary development, context usage as measured by the cloze technique, and attitude towards reading. Thus, all four null hypotheses comparing the experimental group to the control group, were rejected at the .05 level of confidence.

A t-test was applied to measure significant differences between the experimental subjects and control subjects, by grade level. Four hypotheses were constructed to compare the second-grade experimental group to the second-grade control group, on the variables of reading comprehension, vocabulary development, context usage as measured by the cloze technique, and attitude on reading. The results suggest a significant difference in the scores of the experimental and control groups on two hypotheses. The Second-grade experimental group made
significant gains on the variables measuring the cloze test scores, and reading attitude.

The t-test was also applied to measure significant differences between the fourth-grade experimental subjects and the fourth-grade control subjects. Four hypotheses were established to compare the variables of reading comprehension, vocabulary development, context usage as measured by the cloze technique, and attitude towards reading. The data implies no significant differences in the scores of the two groups on each of the four hypotheses. Consequently, the four null hypotheses were not rejected.
Chapter five presents the summary, evaluation of procedures, conclusions, and recommendations for further study.

**Purpose of the Present Investigation**

This study investigated the effect of the cloze instructional technique on the reading comprehension and vocabulary development of elementary school children.

The purpose of this study is to develop an empirically tested cloze instructional procedure for the evaluation of elementary student's reading achievement. The intent of this study was to demonstrate usefulness of the cloze procedure for improving reading skills. It was anticipated that the findings would substantiate or negate the merits of the cloze technique for classroom utilization.

**Hypotheses**

The hypotheses were generated to predict reading skills that may enhance reading instruction for classroom use. The twelve research hypotheses were:
1. Does instruction employing the cloze procedure effect reading comprehension for elementary students?

2. Does instruction employing the cloze procedure effect reading comprehension for second-grade students?

3. Does instruction employing the cloze procedure effect reading comprehension for fourth-grade students?

4. Does instruction employing the cloze procedure effect vocabulary development for elementary students?

5. Does instruction employing the cloze procedure effect vocabulary development for second-grade students?

6. Does instruction employing the cloze procedure effect vocabulary development for fourth-grade students?

7. Does instruction employing the cloze procedure effect attitude toward reading for elementary students?

8. Does instruction employing the cloze procedure effect attitude toward reading for second-grade students?

9. Does instruction employing the cloze procedure effect attitude toward reading for fourth-grade students?
10. Does instruction employing the cloze procedure effect cloze test scores for elementary students?

11. Does instruction employing the cloze procedure effect cloze test scores for second-grade students?

12. Does instruction employing the cloze procedure effect cloze test scores for fourth-grade students?
Procedure

The 132 subjects included in the study were all the second and fourth-grade students from a middle class socio-economic background, attending two private, elementary schools. The sample was randomly divided into an experimental and control group of 66 members from each school. Both groups received an equal amount of teaching time. Following the pretests, the experimental group received six weeks of cloze instructional training from the investigator, while the control group received equal time with regular textbook instruction, also given by the investigator.

The experimental group received cloze exercises in which every fifth word was automatically deleted. Every exercise included 50 blanks.

Cloze passages were written at the student's instructional level. As Potter (1968) suggests, the cloze exercises were constructed from reading material approximately one-year lower than the group's mean reading scores. After the student's completion of each exercise, they were encouraged to read their stories aloud and to compare their answers to the exact word replacements. Emphasis for the cloze training was on syntax and semantics of appropriate word substitutions.
A pretest-posttest research design was utilized for the purpose of this study. The Gates-MacGinitie Reading Test, Semantic Differential Attitude Scales and The Cloze Test were the testing instruments employed. An F test was applied to test the hypotheses between the experimental and control groups. It was also applied to test the assumption of equal variance prior to selecting the appropriate t-test formula. A t-test was applied to the hypotheses comparing experimental and control groups by grade level. Each hypothesis was treated independently.
Conclusions

The findings of this study suggest that:

1. Reading achievement is enhanced by the cloze instructional technique, as experimental subjects measured significant gains in reading comprehension and vocabulary development. Support is lent by this study from the results of investigations by Bormuth (1969), Ruddel (1964), Taylor (1953), and others that the cloze technique is a valid and reliable procedure for improving reading skills.

2. The subjects of the experimental group seemed to have mastered the cloze technique as significantly higher scores were attained in reading comprehension, vocabulary development and on context usage, as measured by the cloze test.

3. Practice in dealing with syntax and semantics of the English language seems to improve with the cloze instructional technique. Experimental subjects made measurably significant gains in their cloze posttest scores.

4. The subjects in the experimental group improved their attitude towards reading, as indicated by significant
gains on the Semantic Differential Attitude Scales. This finding tends to support Lopardo's (1975) suggestion that reading attitude is enhanced as students master the cloze technique.

5. Second-graders (younger children) seemed to be more positively affected by the experimental treatment than the fourth-graders (somewhat older children), in the areas of attitude towards reading and context usage as measured by the Cloze Test and the Semantic Attitude Scales.
Recommendations for Further Study

The data from this study, in support of research from Taylor (1953), Bormuth (1969), Rankin (1957) and others, indicates that the cloze technique is a reliable and valid procedure for improving reading skills. The cloze procedure offers educators a variety of techniques for enhancing language development of elementary school children. However, the possibilities of the use of this technique have not been fully explored. Further investigation is necessary. The following areas are recommended for further research:

1. A similar cloze instructional program with a longer treatment period may prove this technique even more useful than the reported findings suggest.

2. An extensive longitudinal study is recommended to determine whether reading gains are long lasting.

3. Other types of testing instruments could be used to measure reading achievement and attitude gains.

4. This study could be replicated in a different socio-economic, racial or cultural environment, to test the validity and reliability of its findings.
5. Further investigation with middle and upper elementary school subjects should be undertaken to determine the usefulness of the cloze technique as it applies to reading achievement.
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BIBLIOGRAPHY A

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Selected Bibliography


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Newspapers

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Bibliography of Children's Books
Selected Bibliography For
Second-Grade Cloze Exercises


Selected Bibliography For
Fourth-Grade Cloze Exercises


APPENDIX A

Instructions and Samples of Cloze Exercises for Second and Fourth Graders
Cloze Instructions

Your job will be to guess what word was left out of each space and to write that word in that space.

It will help you to do the exercise if you remember these things:

1. Write only one word in each blank.

2. Try to fill every blank. Don't be afraid to guess.

3. You may skip hard blanks and come back to them when you have finished.

4. Wrong spelling will not count against you if we can tell what word you mean.

5. Most of the blanks can be answered with ordinary words but a few will be--
   numbers like.................................3,427 or $12
   contractions like..........................can't or we'll
   abbreviations like.........................Mrs. or U.S.A.
   parts of hyphenated words like..........self- in the word self-made

6. Use a pencil and print neatly.
Sample of Cloze Exercise for Second-Grade

ALEXANDER TAKES A BUS RIDE*

Alexander was a mouse. He was a funny little mouse. He wanted to ride in the big yellow school bus. He wanted to go to school with the children in Mr. Hill's bus.

One day Alexander saw the bus stop for some children. So he ran and jumped into the bus, too. Alexander looked all around. Then he sat down with a big girl. "Eeeeeeee!" said the girl. "A mouse! A mouse! Stop, Mr. Hill! Stop!"

The yellow school bus stopped. Down jumped Alexander. Mr. Hill and the children looked all around the bus. But they could not see Alexander. "The mouse is not in the bus," said Mr. Hill. "I guess he jumped out of the window."

But Alexander was there. He was there in the bus all the time. The big girl sat down again. Then away went the school bus. Alexander looked all around. "I will get up here," he said. "Then I can see out of the window."
Up to the window Alexander went. But not one of the children saw the little mouse. Bump! went the school bus. Bump! went Alexander. "What a bus!" he said. "I will catch on to something." Then swing went Alexander. Ring went the bell.

Mr. Hill stopped the bus. "Who did that?" he called. Alexander let go of his swing. He ran up by the window again. The yellow school bus went on. Bump! bump! went the bus. Swing! swing! went Alexander. Ring! ring! went the bell.

Mr. Hill could hear the bell. He stopped the school bus again.

* Taken from: Open The Gate, Ginn and Company, 1959, p. 102-107.

(Check your work. After proofreading, hand in your paper and you may read the completion of this story.)
Then he looked at the children. "Who did that?" he called.

Alexander did not like the bus. He did not like the bumps. He did not like the bell. He wanted to get out and walk. Alexander jumped out of the bus. "Thanks for the ride!" he called. No one could hear Alexander. No one saw him go.

Then away went the bus. Away it went in a hurry. Alexander said, "Next time I will not ride in the school bus. I will walk to school. I will walk all the way."
Sample of Cloze Exercise for Fourth Grade

BLUE JEANS, THE ALL-AMERICAN PANTS*

Almost everybody wears blue jeans. Boys, girls, men, women. 

_ Rich _ people, poor people, cowboys, _ farmers _, workmen of all kinds, _ school _ children, movie stars, and _ presidents _. Almost everybody wears blue _ jeans _.

The story of how _ we _ got the blue jeans _ we _ wear today is part _ of _ the story of the _ American _ West. In 1848, gold _ was _ discovered in California--and _ so _ were jeans! It happened _ this _ way.

California was not _ even _ a state yet. It _ was _ wild country and not _ many _ people lived there. Then _ gold _ was discovered.

From all _ over _ the nation, thousands of _ young _ men set out for _ California_. They hoped to find _ gold _ and get rich over night.

Families _ traveled West in covered _ wagons _ from all parts of _ the _ country. The wagons had _ tops _ made of the heavy
cloth that is used for boat sails.

In the covered wagons, people carried all the food and things they would need to live in the wild country of California. There were not many stores in the West yet. So people had to bring the tools and clothes they needed with them.

By 1849, so many covered wagons were bumping across the plains and mountains of the West that people called this the time of the Gold Rush.

Some young men did get rich during the Gold Rush. But most of them did not. Still, many of those who did not find gold found other things they liked in the West.

The country was beautiful. It looked like a good place to live—to farm or raise cattle or grow fruit. And many people who went West to find gold decided to stay there. They became cowboys and farmers, as well as miners.


(Check your work. After proofreading, hand in your paper and you may read the completion of this story.)
Completion of Blue Jeans, the All-American Pants

It was a gold miner who helped to start the blue jean business.

One day, the miner came into a city looking for a pair of pants. Gold mining was difficult work and the miner's clothes wore out fast. He wanted pants that would be tough enough to stand up to the rough work of mining.

He met a young man named Levi, who had a big roll of cloth over his shoulder. Levi had not come to California to look for gold. He didn't have any foolish ideas about getting rich over night. He planned to sell the cloth to miners for tents, and to people who needed new tops for their covered wagons.

But before Levi sold any of his cloth for tents or wagon tops, he was stopped by the miner who needed a pair of tough pants.

"Can you make pants out of that cloth?" the miner asked Levi. "I need some very strong workpants."

Levi had never thought of using the cloth for pants. But why not? He took the miner to a tailor. Then Levi gave the tailor some of his heavy cloth. "Make two pairs of pants," Levi said. "One for the miner and one for me."

Of course the pants were very strong. They were tough as a
wagon top. Tough as a tent top. Tough as a boat sail.

The miner was very pleased. He said to his friends, "Look at these pants made of Levi's cloth. You never saw such strong pants!"

Now Levi went into the business of making work pants.

He decided that the cloth did not have to be quite as heavy as the cloth for a wagon top or a tent top. So he asked his brothers to send him some strong blue cotton cloth called denim. With this blue denim cloth, Levi started making the kind of pants we call blue jeans today.

The first denim pants that Levi made were just strong pants. They were sewed up in the same way as other pants. Then in 1860, Levi's strong pants were made even stronger. He put the pockets on with rivets!

A tailor in a mining town gave Levi the idea. A hard-to-please miner came to the tailor. He was wearing a pair of Levi's pants.

Strong as Levi's pants were, the miner said that the pockets weren't strong enough to hold the pieces of gold that he kept putting in his pockets. His pockets kept pulling loose from the pants. The tailor could see that the cloth was strong enough. It was the thread that wasn't strong enough. So he used rivets to fasten the pockets onto the pants.
The tailor was so pleased with his discovery that he told Levi about it. Levi thought the rivets were such a good idea, he decided to put them on all his pants.

Levi did not find riches in gold fields, but he was soon making more money than many gold miners. Not all the gold miners found gold, but all gold miners needed pants.

Next to the miners, the cowboys were one of the biggest markets for Levi's pants. The cowboys needed tough pants, too. Cowboys liked their pants to fit tightly. The denim cloth that Levi used for his pants would always shrink a little. Then the pants were really tight—just the way the cowboys liked them.

But the rivets that the miners liked scratched the cowboy's saddles. So Levi covered the rivets with cloth. Then they couldn't scratch the cowboy's saddles, and everybody was happy.

Today the pockets on many blue jeans are still riveted to the pants. Sometimes the rivets are covered as they were on the cowboy's pants.

After the miners and cowboys discovered blue jeans, other people discovered them too. Men who did rough work liked them, but children liked them best of all.
For a long time jeans were called Levi's, because the pants made by Levi were famous all over the West. And many people still call blue jeans "Levi's".

Good old blue jeans! It doesn't matter what we call them—blue denims, Levi's, dungarees, overalls, or blue jeans—they're the pants that Americans like to wear.
APPENDIX B

Instructions and Sample of
Semantic Differential Attitude Scales
for Second and Fourth Graders
Instructions for the Semantic Differential Attitude Scales

The purpose of this quick and easy test is to find out your attitude on the concept of reading.

On the test you will notice five rows of faces. The word at the beginning of each row also includes its opposite. It is your task to mark an "X" on the one line, above the face, that shows your feelings about reading in relation to the pair of words. Please make your choice on the basis of how you feel about reading at this time.

If you feel very strongly about the concept of reading (one way or the other) in relation to this pair of words, you would place your mark as follows:

HAPPY X ___ ___ ___ ___ ___ ___ UNHAPPY

or

HAPPY ___ ___ ___ ___ ___ ___ X UNHAPPY

If you feel only slightly strong about the concept of reading in relation to this pair of words, you would place your mark as follows:

CRUEL ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ KIND

or

CRUEL ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ KIND
Place your "x" in the middle space only if you think your feelings do not relate to either end of the scale, or if you think both of the sides of the scale are equally related.

Please give your honest feelings and treat each pair of words carefully and separately. Make sure you have checked every scale once. This test does not receive grades and your responses will be kept strictly confidential.
Semantic Differential Attitude Scales

READING

HAPPY ___________ ___________ ___________ ___________ SAD
(Ugly)

UGLY ___________ ___________ ___________ ___________ PRETTY

GOOD ___________ ___________ ___________ ___________ BAD

AWFUL ___________ ___________ ___________ ___________ NICE

SWEET ___________ ___________ ___________ ___________ SOUR