A COMPARISON OF CHANGE IN READING ABILITY AND ATTITUDE
IN A STUDENT-CENTERED CLASSROOM
AND A TEACHER-CENTERED CLASSROOM

A thesis submitted in partial satisfaction
of the requirements for the degree of Master
of Arts in Secondary Education

Reading Improvement

by

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TABLE OF CONTENTS

LIST OF TABLES ........................................................................... vi

ABSTRACT ..................................................................................... vii

CHAPTER

I  STATEMENT OF THE PROBLEM ............................................. 1
  Background of the Problem ..................................................... 3
  Problem .................................................................................... 11
  Research Questions .................................................................. 11
  Research Hypotheses ................................................................ 12
  Purpose of the Study ............................................................... 15
  Scope and Delimitations ......................................................... 15
  Definition of Terms ................................................................. 17

II  REVIEW OF RELATED LITERATURE ..................................... 19
  Literature that dealt with the Student-Centered Approach to
  Teaching in an Informal Setting .......................................... 19
  Traditional or Group Setting ............................................... 33
  Summary .................................................................................. 46

III  DESCRIPTION OF RESEARCH METHODOLOGY .................. 48
  Overview .................................................................................. 48
  Description of Population and Sample .................................. 48
  Instrumentation ....................................................................... 50
  Teaching Approaches and Procedures .................................... 52
    Student-centered ................................................................. 52
    Teacher-centered ................................................................ 53
  Limitations .............................................................................. 66
  Statistical Analysis ................................................................. 69

IV  FINDINGS .................................................................................. 71
  Presentation of the Results ..................................................... 71
  Hypothesis No. 1 .................................................................... 72
  Hypothesis No. 2 .................................................................... 73
  Hypothesis No. 3 .................................................................... 75
  Hypothesis No. 4 .................................................................... 78
  Hypothesis No. 5 .................................................................... 80
  Hypothesis No. 6 .................................................................... 82
Hypothesis No. 7.................. 84
Hypothesis No. 8.................. 84
Hypothesis No. 9.................. 84
Hypothesis No. 10................. 87
Hypothesis No. 11................. 90
Hypothesis No. 12................. 90
Hypothesis No. 13................. 93
Hypothesis No. 14................. 93
Hypothesis No. 15................. 96
Hypothesis No. 16................. 96
Hypothesis No. 17................. 99
Hypothesis No. 18................. 99

V SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.................. 103

Summary.................................. 103
Conclusions.............................. 109
Recommendations........................ 111

REFERENCES.................................. 113

APPENDICES

A Analysis of Covariance.............. 116
B Attitudinal Survey................... 117
C Attitudinal Survey divided into parts I and II, and reading, school, and self sub-scales.................. 120
D Tentative Semester Plan............. 122
E Weekly Plan............................ 123
F Sheet after 1/4--Evaluation and Semester Plan.................. 124
G Self-evaluation........................ 125
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comparison of Pretest and Posttest on CTBS Vocabulary Test for Student-centered and Teacher-centered Classes</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>Analysis of Covariance (IQ and Pretest as Covariates) for Posttest Scores on CTBS Vocabulary for Boys, Girls, and Total</td>
<td>74</td>
</tr>
<tr>
<td>3</td>
<td>Comparison of Pretest and Posttest on CTBS Comprehension Test for Student-centered and Teacher-centered Classes</td>
<td>76</td>
</tr>
<tr>
<td>4</td>
<td>Analysis of Covariance (IQ and Pretest as Covariates) for Posttest Scores on CTBS Comprehension for Boys, Girls, and Total</td>
<td>79</td>
</tr>
<tr>
<td>5</td>
<td>Comparison of Pretest and Posttest on CTBS Total Test for Student-centered and Teacher-centered Classes</td>
<td>81</td>
</tr>
<tr>
<td>6</td>
<td>Analysis of Covariance (IQ and Pretest as Covariates) for Posttest Scores on CTBS Total for Boys, Girls, and Total</td>
<td>83</td>
</tr>
<tr>
<td>7</td>
<td>Comparison of Pretest and Posttest Means on Attitudinal Survey in Reading, Part I, Both Within and Between the Student-centered and Teacher-centered Class</td>
<td>85</td>
</tr>
<tr>
<td>8</td>
<td>Comparison of Pretest and Posttest Means on Attitudinal Survey in Reading, Part II, Both Within and Between the Student-centered and Teacher-centered Class</td>
<td>83</td>
</tr>
<tr>
<td>9</td>
<td>Comparison of Pretest and Posttest Means on Attitudinal Survey in School, Part I, Both Within and Between the Student-centered and Teacher-centered Class</td>
<td>91</td>
</tr>
<tr>
<td>10</td>
<td>Comparison of Pretest and Posttest Means on Attitudinal Survey in School, Part II, Both Within and Between the Student-centered and Teacher-centered Class</td>
<td>94</td>
</tr>
<tr>
<td>11</td>
<td>Comparison of Pretest and Posttest Means</td>
<td>vi</td>
</tr>
</tbody>
</table>
Table on Attitudinal Survey in Self, Part I, Both Within and Between the Student-centered and Teacher-centered Class........97

12 Comparison of Pretest and Posttest Means on Attitudinal Survey in Self, Part II, Both Within and Between the Student-centered and Teacher-centered Class..........100

vii
ABSTRACT

A COMPARISON OF CHANGE IN READING ABILITY AND ATTITUDE IN A STUDENT-CENTERED CLASSROOM AND A TEACHER-CENTERED CLASSROOM

by

Stephen Lewis Greenbaum

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This study investigated the change in reading ability and attitude toward reading, school, and oneself in forty-six tenth-grade students in a Los Angeles public high school who were enrolled in a one-semester remedial reading course due to their scoring below the twenty-fifth percentile (approximately 8.0 grade level) on the Comprehensive Tests of Basic Skills (CTBS), as required by state and local education codes.

In this study, twenty-three students were taught in a student-centered manner. Compared to this group were twenty-three students who were taught in a teacher-centered manner. These classes were held from February, 1971 to June, 1971.

In October, 1970, the students were administered the
CTBS, which served as the pretest score in reading. An attitudinal survey was given in February, 1971, serving as the pretest score in attitude toward reading, school, and self. The CTBS and attitudinal survey were readministered in June, 1971, serving as the posttest scores.

The statistical measurements used were a t test measuring gains in each class in reading and attitude, a t test comparing the two classes in attitude change, and an analysis of covariance comparing the two classes in reading change. The level of significance necessary to assign statistical significance was .05.

The statistical measurements indicated these results:
(1) There was significant improvement in reading in each class; (2) There was no significant difference in reading achievement between the classes; (3) There was no significant change in attitude in each class; (4) There was significant improvement in attitude toward reading for the boys in the student-centered class when compared to the boys in the teacher-centered class.

The major findings of this study were that remedial classes created because of the state and local codes did cause significant improvement in reading skills as measured by the CTBS, and that tenth grade boys did better in a student-centered environment, while tenth grade girls did better in a more traditional environment.
CHAPTER I

Statement of the Problem

In July 1969, the State Board of Education established minimum standards that must be met by all students who graduate from a California high school. The Code (California Administrative Code, Title 5, Section 1601) established that, effective in June 1972 and thereafter, all high school graduates must demonstrate competence in reading and mathematics at an equivalence of no less than 8.0 grade placement as assessed on a standardized test some time during grades 9-12 or satisfactorily complete during grades 9-12 a one-semester remedial course in reading and/or arithmetic.

Mr. L. Frank Mann, consultant in Secondary Education of the State Board of Education, stated in a conversation April 5, 1971 that Senate Bill 1, which went into effect May 23, 1968, was the major piece of legislation which profoundly changed the state education code. In this legislation two Education Codes were created which were related to minimum standards: Section 8574, which stated that a local school district must create minimum academic standards, and these standards may not be less than those set forth by Section 8575. Section 8575 listed the minimum State standards, and these standards were created
by a committee to develop academic standards. The committee, existing since June 11, 1969, was chaired by Dr. Mitchell L. Voydat, Chief of the Bureau of Elementary and Secondary Education. The committee was made up of local, district, and county educators from the State.

Mr. Mann foresaw no change in the Code for a few years until it could be established what effect the new standards had in raising the achievement level of students in reading and arithmetic.

It was with this legislation in mind that this teacher undertook this study. This teacher volunteered to be one of the persons to teach a remedial reading course that would fulfill the requirements put forth in Administrative Code 1601. This teacher, uncertain as to the benefit this class might have in improving the student's reading competency, and feeling that along with attempting to develop reading skills, an effort should be made in improving the student's attitude toward reading, school, and himself, undertook this study. He created a classroom termed in this study "student-centered." Another teacher volunteered to cooperate with this teacher in his study, and she created a classroom termed in this study "teacher-centered." She agreed to compare her class to the student-centered class both in the area of reading skills and attitudes, as measured by a standardized reading test and a teacher-created attitudinal survey.
Background of the Problem

The 1960's and the beginning of the 1970's brought forth much literature and commentary, as well as demonstrations and violence on campuses, to indicate that all was not well with the American schools. The students were saying that the courses were irrelevant, that the instructors did not care about them as human beings, that the schools were outmoded, archaic, and stultifying, and that, in essence, school was a waste of their time. And so, to demonstrate their disenchantment with the educational institutions, students in high schools and colleges across the nation demanded to be heard, and demanded that there be changes. John F. Cogswell (1970) seemed to understand what this portion of America's youth was saying:

I believe that we have become so immersed in viewing our educational systems as production systems we are blind to what the effects might be. Is the current hippie movement a reaction to this educational system that we are now developing? Is it a reflection of human beings struggling not to be treated as machines [p. 101]? Further, Cogswell made an observation that went to the core of a problem presented in this study: the conflict between the student-centered versus the teacher-centered approach to teaching, as well as the appropriateness of the 8.0 minimum grade level set by the Los Angeles and California Boards of Education:

As I see it, American education is in an existential crisis. We are faced with the choice of reacting to threat by turning to
the fantasy that we can develop schools in
the same way that we develop weapon systems
or of struggling to find ways that are
humanistically oriented... 
But no matter how frustrating or
difficult, I think the consequences of
not making the choice to seek humanistic
ways for school development may be
devastating [pp. 115-116].

John Holt (1964) echoed many of the thoughts of
Cogswell, as he saw the problem existing with the organ-
ization of the school:

We cannot have real learning in school
if we think it is our duty and our right
to tell children what they must learn.
We cannot know, at any moment, what
particular bit of knowledge or under-
standing a child needs most, will most
strengthen and best fit his model of
reality. Only he can do this. He may
not do it very well, but he can do it a
hundred times better than we can.
The most we can do is try to help by
letting him know roughly what is available
and where he can look for it. Choosing
what he wants to learn and what he does
not is something he must do for himself [p.179].

And immediately after this, Holt stated:

The alternative [to a coercive traditional
environment]—I see no other—is to have
school and classrooms in which the child
in his own way can satisfy his curiosity,
develop his abilities and talents, pursue
his interests, and from the adults and
older children around him get a glimpse
of the great variety and richness of
life [p. 180].

Holt saw that the present structure of the schools
and the beliefs that are central to the educational
process of today were actually misdirected and unpro-
ductive. He felt that the traditional approach should
give way to one that allowed self-direction on the part
Charles A. Reich, in *The Greening of America* (1971), an analysis of this country's social, political, and economical structure, said this about the schools:

Thus at the core of the high school experience is something more terrible than authority, indoctrination, or violence—it is an all-out assault upon the newly emerging adolescent self. The self needs, above all, privacy, liberty, and a degree of sovereignty to develop. It needs to try things, to search, to explore, to test, to err. It needs solitude—solitude to bring sense to its experience and thereby to create a future. The school is a brutal machine for destruction of the self, controlling it, heckling it, hassling it into a thousand busy tasks, a thousand noisy groups, never giving it a moment to establish a knowledge within [pp. 149-150].

Reich powerfully assailed the schools for their stultifying effect upon the student. It would seem, according to Reich, difficult indeed for the student to improve in any area, including reading skills, if he felt deprived of an open, encouraging, comfortable environment for working with those things that were important to him. Without a sense of himself and his needs, the student would not be vitally concerned with improving skills that a teacher would feel to be deficient.

Charles E. Silberman wrote the most widely read criticism of education in the early 1970's. In *Crisis in the Classroom* (1970), Silberman agreed with Reich regarding the schools' harmful effect upon the individual:
Most of all, however, I am indignant at the failures of the public schools themselves. 'The most deadly of all possible sins,' Erik Erikson suggests, 'is the mutilation of a child's spirit.' It is not possible to spend any prolonged period visiting public school classrooms without being appalled by the mutilation visible everywhere—mutilation of spontaneity, of joy in learning, of pleasure in creating, of sense of self. The public schools—those 'killers of the dream,' to appropriate a phrase of William Smith's—are the kind of institution one cannot really dislike until one gets to know them well. Because adults take the schools so much for granted, they fail to appreciate what grim, joyless places most American schools are [p. 10] ....

Herbert R. Kohl (1969), who has done much both in criticizing the schools and in pointing out a different, i.e., not traditional way to go, said:

There is no one way to learn, nor are there specific stories or experiments all young people must go through. The notion that learning is orderly and ought to be identical for all pupils is wrong and in many ways pernicious. It leads to the notion of remedial work—i.e., the idea that students who have not followed the temporal sequence set by the teacher have somehow failed and need remedial attention. Remedy for what? A child who has not learned to read does not need remedial work so much as his own way of learning something for the first time [p. 52].

Kohl, like Holt, felt that the teacher must be put in touch with the individual student and must realize that students are unique and learn at different rates and in different ways. Kohl felt that the poor reader needs to learn his own way of learning. But how does one learn to read? How should reading be taught? What can
be made of a law (Administration Code 1601) that mandates a one-semester remedial reading course that is to bring students to a "minimum standard"?

With the general problems created by our present-day education practices as seen by these critics, and many others, existing as a backdrop, the more specific problem surrounding the teaching of reading exists. Ever since the publication of Rudolf Flesch's *Why Johnny Can't Read* (1955), the teaching of reading has been under vociferous attack, although this attack has been tempered by those writers, such as Nila Banton Smith (1961) and George D. Spache (1956), who have pointed out that there has been significant progress in reading instruction in this century.

Nevertheless, the consensus among reading experts points to a general frustration in such basic matters as the (1) defining of reading, (2) determining how one learns to read, and (3) methods that should be used in the teaching of reading. What a reading teacher discovers when he attempts to have these questions answered is that reading is a complex skill involving environmental, emotional, and intellectual factors, as well as auditory, visual, and perceptual skills, that no one knows how learning takes place, and that the situation in which a twelve-year-old with an IQ of 130 reads poorly while his seven- and eight-year-old brother and sister read with
much greater proficiency cannot be explained. Regarding the question of methods, the teacher of reading is told that the teacher is much more important than any method, while behavioristic psychologists claim that if one knows and follows "basic truths" regarding teaching and learning, then the teacher becomes of minor importance.

The National Society for the Study of Education, in its 47th Yearbook (1948), addressed itself to the problem of reading instruction:

A basic need today is to develop a sound reading program in high schools and colleges which recognizes (1) that growth in reading is continuous, (2) that the function of guidance in reading is to start with the student at his present level of reading ability, and (3) that it should carry him forward to higher levels of competence in learning with his capacity and the increasing demands made upon him when reading. Until notable progress has been made in providing students with appropriate stimulation and guidance, general education cannot make its largest contribution to the personal and social development of youth [p. 42].

While this might seem to be good advice, many difficult questions are raised: What is meant by "continuous"?; How does one diagnose a student's "present level of reading ability"?; How does a teacher who has twenty to thirty students in a class work with each student at his "level"?; and what is "appropriate stimulation" for a remedial reading student?

Attesting to the difficulty and challenge of creating a reading program in the high schools was this statement:
No one type of reading program will fit the need of high schools in general. Each school must tailor a program suited to its particular group of students—their backgrounds, potential abilities, and needs for supplementary reading instruction. Its faculty must carefully analyze the local situation, set up a trial program and continuously evaluate and modify it until a sound, workable plan has been evolved [p. 9].

These authors took a pragmatic look at the situation: no easy answers, much experimentation until, hopefully, a sound plan was discovered. Yet, left with the necessity to create a program to meet an individual school, the reading teacher feels he must start alone, for the "plans" that have been published contradict each other with seeming perversity.

M. D. Vernon (1960) also indicated that the instruction of reading in the school was anything but successful:

At first sight it may appear that such an investigation of cognitive incapacities in the reading act is of purely theoretical interest in establishing the psychological nature and basis of reading disability. But if the exact nature of this disability is more clearly understood, it might be possible to design remedial techniques for treating and eliminating it directly, rather than relying upon the only partially successful hit-or-miss methods which are employed at present [p. 197].

It seems that one must live with hit-or-miss methods.

It seems that at this stage of understanding of the reading act, the experimenter is on as solid ground as the traditionalist.

Helen Robinson (1968) stated the problem with great
...it is apparent that few innovations or marked changes have occurred in reading instruction beyond the primary grades. Many of the basic assumptions about sequence, methods, and materials remain unchallenged. While scattered efforts are being made to group pupils for more effective instruction, only a few innovations in teaching reading beyond word-recognition level have occurred....it is obvious that myriad questions continue to be asked at all levels and that few answers are forthcoming. Although more studies of reading than of any school activity have been conducted, uncertainty and difference of opinion still pervade practice. Scholars in the field suggest that the most productive questions have not been asked and that most experimentation continues to focus on problems of minor import [p. 398].

Helen Robinson referred to many studies, and yet few answers. Jeanne Chall (1970) questioned those tentative answers that were brought forth by the "innovators":

In general, the new innovators tend to be so convinced that their method will, 'if used properly,' eliminate the mess of reading problems that they keep this view in spite of evidence to the contrary. This phenomenon, no doubt, is due to the spirit of 'novelty,' or 'pioneering' which keeps cropping up in connection with all new methods, whether in mathematics, science, or reading. Although administration and teachers admit verbally that there are no panaceas, inwardly they tend to hold fast to the hope that they are wrong—that at last, this is the way [p. 281]!

Jeanne Chall seemed to be denying the possibility of discovering the way. Perhaps she was correct, and that all we can hope for are myriad answers to go with Helen Robinson's "myriad questions."
Problem

The foregoing section indicated two significant problems. First, there was the problem of education itself, specifically traditional education, which has neither been successful in fostering a positive attitude toward learning nor in promoting learning itself. Second, for all the research undertaken, the problem of determining how reading should best be taught still exists.

This study was initiated in an attempt to point a direction to the solution of these problems.

Research Questions

This study attempted to answer the following questions:

1. Was there any significant measurable difference in reading skills (vocabulary and comprehension) among boys and girls as a result of a one-semester course in reading improvement?

2. Was there any significant measurable difference in reading skills (vocabulary and comprehension) between the boys and girls enrolled in the student-centered class compared to those enrolled in the teacher-centered class?

3. Was there any significant measurable difference in attitude toward reading, school, and self among boys and girls as a result of a one-semester course in reading improvement?
4. Was there any significant measurable difference in attitude toward reading, school, and self between the boys and girls enrolled in the student-centered class compared to those enrolled in the teacher-centered class?

Research Hypotheses

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

1. There is no significant difference ($p \leq .05$) of means of the CTBS Vocabulary scores for boys, girls, and total within each class as measured by a $t$ test.

2. There is no significant difference in the mean posttest CTBS Vocabulary scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest scores as covariates.

3. There is no significant difference between means of the CTBS Comprehension scores for boys, girls, and totals within each class as measured by a $t$ test.

4. There is no significant difference in the mean posttest CTBS Comprehension scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest
5. There is no significant difference between means of the CTBS Total (Vocabulary and Comprehension) scores for boys, girls, and total within each class as measured by a t test.

6. There is no significant difference in the mean pretest CTBS Total (Vocabulary plus Comprehension) scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest scores as covariates.

7. There is no significant difference between means on the attitudinal survey in reading, part I, for boys, girls, and totals within each class as measured by a t test.

8. There is no significant difference between the means on the attitudinal survey in reading, part I, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a t test.

9. There is no significant difference between means on the attitudinal survey in reading, part II, for boys, girls, and total within each class as measured by a t test.

10. There is no significant difference between the means on the attitudinal survey on
reading, part II, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a $t$ test.

11. There is no significant difference between means on the attitudinal survey in school, part I, for boys, girls, and total within each class as measured by a $t$ test.

12. There is no significant difference between the means on the attitudinal survey in school, part I, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a $t$ test.

13. There is no significant difference between means on the attitudinal survey in school, part II, for boys, girls, and totals within each class as measured by a $t$ test.

14. There is no significant difference between the means on the attitudinal survey in school, part II, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a $t$ test.

15. There is no significant difference between means on the attitudinal survey on self, part I, for boys, girls, and totals within each class as measured by a $t$ test.

16. There is no significant difference
between the means on the attitudinal survey on self, part I, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a t test.

17. There is no significant difference between means on the attitudinal survey in self, part II, for boys, girls, and totals within each class as measured by a t test.

18. There is no significant difference between the means on the attitudinal survey on self, part II, for boys, girls, and total between the student-centered and teacher-centered classes as measured by a t test.

**Purpose of the Study**

This study had three purposes: (1) to determine if one approach to the teaching of reading (student-centered) produced more positive results in achievement and attitude compared to another approach (teacher-centered); (2) if one approach produced better results, then to describe this approach so that other teachers might be able to employ it; and (3) to examine the value of legislation which required one-semester courses.

**Scope and Delimitations**

This study dealt with four classes of remedial reading students, i.e., students who scored below 45 (approximately 8.0 grade level) on the Comprehensive Tests
of Basic Skills. Two of the classes were taught by this teacher in a student-centered manner, and two classes were taught by another teacher in a teacher-centered manner. There were a total of forty-two students in the two student-centered classes, and forty in the teacher-centered classes; however, due to late enrollment, transfers, and absences, data could be obtained for only twenty-six in the student-centered classes and the same number in the teacher-centered classes.

A primary limitation on the interpretation of results, but a significant condition to the study, was the fact that the classes were part of a regular public school setting, thus being exposed to many different types of influences and stimuli. A laboratory setting could not be obtained.

Another limitation was that the test which determined who would be in the class, and which was used for the pretest for the reading scores, was administered in the beginning of October, 1970, while the instruction in the classes did not begin until February, 1971.

A third limitation was the fact that the teachers involved differed in sex, personality, background, etc., so that any differences found in the subjects might be due more to the individual teacher than to the student-centered or teacher-centered treatment.

Fourth, the time of the study covered only one
semester, a short time in which one can significantly change long-established patterns in reading and attitudes. However, this was the time designated by the State Board of Education for compliance with the State Code involving minimum standards, and, therefore, a major condition to the study.

**Definition of Terms**

This teacher felt great concern in choosing the labels to designate the two different teaching approaches. He choose "student-centered" and "teacher-centered" to stand for how the activities in the classroom were initiated. He considered such vogue expressions as "open classroom" and "humanistic education" as connected to the structure and aims of his class, and also accepted the vogue expression of "facilitator" to describe his role in the classroom. He connected "teacher-centered" with "content-centered," in that the content presented the most tangible source of activities in the cooperating teacher's room. The label "traditional" was also connected to the cooperating teacher, a label which she accepted.

1. **Student-Centered**—in education, a term indicating that the individual student should assume the primary responsibility for his learning, and that he make the major decisions concerning his activities in class as well as evaluating the results of his
work. In this situation, the teacher functions as an aid to the student's learning.

2. Teacher-Centered—in education, a term indicating that the teacher knows what will be most beneficial for the student's education, and so makes the decisions as to what the class will do and evaluates the students based upon some system of comparing one student in relation to another.

3. Remedial Reading Student—in this study, a student who scored below the 25th percentile (approximate equivalent to the 8.0 grade level) on the Total reading score (Vocabulary plus Comprehension) of the Comprehensive Tests of Basic Skills, Level 4, Form Q.
CHAPTER II
Review of Related Literature

This chapter deals with two aspects of reading: (1) literature that discusses the student-centered, humanistic type of education and (2) literature that makes statistical comparisons between the teaching of reading in an informal, individualized setting versus a more traditional or group setting.

Through examining this literature, the reader should obtain some understanding as to what is meant by such elusive terms as "student-centered," "humanistic," "open," or "informal" education, along with discovering what has been accomplished by this general approach. Along with this, the reader should discover what the results of various grouping procedures in improving reading skills and/or attitudes have been. Finally, some idea of the statistical approach of such studies should be seen.

Literature that dealt with the Student-Centered Approach to Education

One of the most significant phenomena of the past three or four years has been the increased interest in this type of education referred to as "open," "student-centered," "humanistic." As Resnick (1971) stated:

Everybody who has an interest in American education has probably heard by now of the
open classroom. Modeled on the British Infant Schools, the open classroom has become the latest educational rage, a new kind of magic answer for the great numbers of Americans who are losing faith in their public schools [p. 16].

A great many articles and full-length books have been published in the last few years to describe these schools and approaches. Even a newsletter (New Schools Exchange Newsletter, Santa Barbara) has been created to inform parents, teachers, and students of alternatives to the traditional public school. Resnick described the general philosophy of the open classroom as follows:

The philosophy of the open classroom is as radically different from that of the traditional one as its physical appearance. A basic tenet of this philosophy is that children learn even such basic skills as reading in an almost random way and at their own pace and that, therefore, they cannot be programmed to learn what teachers think they ought to learn according to a predetermined sequence [p. 17].

Herbert R. Kohl, in his work The Open Classroom (1969), presented an invaluable guide for anyone considering breaking from the traditional classroom structure and forming an open classroom. Kohl's book was frighteningly honest and yet practical. He stated:

A teacher who is trying to be bold and creative may find himself in one case allied with parents against the majority of other teachers and administrators, and in the other case find few allies apart from the students. In either case there will be no neutral position for the teacher and therefore he ought to be prepared for political confrontation [p. 95].
Political confrontation is not thought of as the usual arena for an elementary or secondary level teacher, yet Kohl's appraisal of the situation should be understood by any teacher attempting to set up an open classroom.

Kohl dramatically made clear the question regarding founding of the open classroom:

There are several ways to experiment in the classroom. It depends on who the teacher is. One ought not to try something basically incompatible with one's personality. It is likely to cause frustration and hostility, and to make further experimentation seem more dangerous than it really is. A crucial thing to realize is that changing the nature of life in the classroom is no less difficult than changing one's own personality, and every bit as dangerous and time-consuming. It is also as rewarding [pp. 69-70].

Kohl offered in this book comments that he thought would be helpful. He did not attempt to offer a model, feeling that each teacher must create his own classroom. He did present what others have done, and generally pointed out the problems that a teacher might encounter.

He offered no statistical evidence to support the success of any programs, though he did include some quotations and evidence of work accomplished under such a structure. Essentially, he showed that he had to create a new educational environment because the traditional environment was so unproductive and negative in its effect.

Carl R. Rogers, in his book Freedom to Learn (1969), wrote about experiential learning as contrasted to only
the acquisition of facts. He stated:

... the child who has laboriously acquired 'reading skills' is caught up one day in a printed story, whether a comic book or an adventure tale, and realizes that words can have a magic power which lifts him out of himself into another world. He has now 'really' learned to read [p. 4].

Rogers' book was not specifically about the teaching of reading, and even this phrase would not rest well with him since he would prefer to focus on the learner. Since this book has been so significant in presenting the case for the humanistic approach to education, this teacher felt a full quotation of Rogers' definition of learning would be appropriate:

Let me define a bit more precisely the elements which are involved in such significant or experiential learning. It has a quality of personal involvement—the whole person in both his feeling and cognitive aspects being in the learning event. It is self-initiated. Even when the impetus for stimulus comes from the outside, the sense of discovery, of reaching out, of grasping and comprehending, comes from within. It is narrative. It makes a difference in the behavior, the attitudes, perhaps even the personality of the learner. It is evaluated by the learner. He knows whether it is meeting his need, whether it leads towards what he wants to know, whether it illuminates the dark area of ignorance he is experiencing. The locus of evaluation, we might say, resides definitely in the learner. Its essence is meaning. When such learning takes place, the element of meaning to the learner is built into the whole experience [p. 5].

Here one can see in action what most traditional educators have been paying lip service to: the needs of
the students are truly being met. The student initiates and evaluates his learning; he becomes responsible for his education. This is not to say that the teacher has no function; rather he becomes a "facilitator," one who creates an atmosphere for learning, who clarifies the purposes of the learner, who serves as a resource person, and who shares himself with the group as a participant learner. John Holt (1971) drew a comparison, which Rogers would most likely accept, of a teacher as "travel agent":

...the teacher is best understood as a travel agent, a metaphor that compares learning with taking a trip, or exploring, or doing something that you haven't done before. Of course, you don't necessarily have to have a travel agent in order to travel, just as a lot of learning takes place that teachers don't make happen. But a travel agent can help, as can a teacher. When you go to a travel agent, though, he doesn't say, 'Do you want to take a trip? Here's where you are going: 1, 2, 3, 4, 5, 6,' The first thing he does is try to find out something about you—who I am, what I am, what kind of trip I want to take, what I'm looking for—scenery, native customs, cities, art galleries, night-life, etc. He finds out what I'm after. Then he draws on his greater understanding on what is available out there. He pulls open a file drawer and he begins to take out lots of colored photos, folders, brochures, and shows them to me. Suppose he shows me a picture of the Alps. By doing so, he is not giving me a trip to the mountains, but he is bringing something into the world that I know about or, perhaps, didn't know about, and is illuminating it for me. He's making this world seem accessible to me. He is convincing me that if I want this experience, I can have it. He lays down various possi-
ilities for trips and travels, and he makes them seem as interesting as he can, and as available. So, pretty soon, I find a trip that I want to take. Well, then he helps me with various details and arrangements, and off I go on my trip. He doesn't come with me; he doesn't have to take the trip. And when I come back, he doesn't give me a little test to make sure that I went where I said I was going, or that I saw what I said I was going to see. But he does care a lot that I shall have enjoyed the trip and that the advice he gave me shall have been good advice. Because, if I enjoyed the trip, and if I liked the things that he said I was going to like, then I'll want to take more trips. I'll very likely go back to him and say, 'Hey, that last trip was marvelous. Suggest another...' [p. 5].

This role of the teacher is greatly altered from the traditional teacher or content-centered approach, and the change of emphasis from teaching to learning becomes more than semantic.

In this book Rogers presented accounts of the attempts by a sixth-grade teacher, a college professor, and himself to deal with the question of trusting students and allowing them the freedom to learn. Like Kohl, he cautioned that:

...for others this [giving of freedom] can be a risky and dangerous thing to do, and that consequently they cannot, genuinely, give this degree of freedom. To these I would suggest: experiment by giving that degree of freedom which you genuinely and comfortably can, and observe the results [p. 3].

As with Kohl, no model was offered as the way to set up a student-centered classroom, nor were unqualified stories of success told. Like Kohl, Rogers presented much
good advice and many instances of success, and anyone contemplating a break from the traditional and content-centered approach should carefully study this book.

Charles Silberman, in his important work, Crisis in the Classroom (1970), discussed many schools that were attempting to create an educational environment different from the traditional one. He mentioned two in particular: John Adams High School in Portland, Oregon and the New School in North Dakota. He stated: "The most important experiment in secondary education, therefore, may well be the one being tried in Portland, Oregon's new John Adams High School [p. 364]."

This school is an urban high school of approximately 1300 students from a lower-middle-class background, twenty-five per cent of whom are black and only one-third college-bound.

What makes Adams so important is not only the size and nature of its student body, however, but the fact that it is also the most comprehensive and systematic, and perhaps the most carefully thought-out attempt to create a new kind of secondary school. How successful that attempt will be remains to be seen; since Adams did not open its doors until September, 1969, we can do no more here than indicate what Schwartz [principal of the school] and his colleagues hope to do. What is clear is that the school is a real testing ground; if radical reform succeeds at Adams, it can succeed elsewhere, too [p. 365].

This same questioning of the success of the program was expressed in Newsweek (1970) but with, perhaps,
justifiable pessimism:

It is far too early to tell whether Portland's experiment in free-wheeling, non-authoritarian education will turn out graduates any better prepared for future intellectual challenges than the product of standard U. S. high schools. For the moment, what concerns Adams' teachers most, is not that their innovations go too far, but that they start too late. By the time a student enters high school he has already been conditioned by nine years of following orders and letting others make decisions...it is the best school around, but it may be too late [p. 69].

The Adams High School project was similar to the one to be mentioned in North Dakota in that the program was two-pronged: not only the students were being treated in a new way, but the teachers also had to be reeducated. While in North Dakota a completely different teacher's training institution was developed, so in Portland with the help of the Harvard Graduate School of Education and Oregon State University, a center for the development of teachers for the schools was created.

The students in Adams High School had their day divided into two: during one-half, they received tutoring in some basic skill or worked on an independent study project or took electives or just relaxed. They decided whether to take their classes with a conventional letter grade or on a credit-no credit basis; during the other half, the students had to take a required three-year sequence in general education in English, social studies, mathematics, and science. Each section of the discipline
was autonomous and had to determine what ought to be learned and how it should be learned. The approach tended to be problem centered, and it was hoped by Principal Schwartz that:

...the students and teachers will move from the problems that evoke their interest to a study of the intellectual disciplines needed to illuminate and deal with them—that the general education courses, in short, will have serious intellectual content [p. 367].

This teacher had difficulty in determining just what was occurring in the classroom, what the relationship between teacher and student was, what freedoms were allowed, what assignments had to be met, what grades were given. But while this was vague, and, along with it, any statistical data to indicate success or failure, the school's senior researchers have written that "Adams is committed to becoming an experimental school with more than its own intuitive claims to substantiate its value [p. 368]." The results of this experiment will be interesting to anyone concerned about education.

In approximately 1965, educators in North Dakota realized that the schools in their state as well as the preparation of the elementary school teachers ranked as the lowest in the country, and so they began developing a new approach to education in which they attempted to transform the formal elementary schools into more informal classrooms. The schools were modeled after the English primary schools in that there were to be several grades
in the same class with children working independently, with younger children initiating the patterns of the older children, with the older children teaching the younger child, with the objectives growing out of the children's interest and experiences, with the children working at their own rate, and with a general feeling of openness prevailing between the teachers and the students and the students with each other. In order to make this experiment work, it was felt that an entirely new teacher-training institution had to be created, and so the University of North Dakota began the New School for Behavioral Studies in Education which was to prepare "new" teachers for this new elementary school project.

North Dakota thus adopted a far-reaching program to convert formal elementary classrooms into informal ones, in which individualized learning replaces most large groups instruction, the teacher's role changing from single 'chalk and talk' teaching to that of 'observing, stimulating, and assisting children in their learning [p. 287].'

Thus we see the view of the teacher more in terms of a Rogerian facilitator.

This program was established in the spring of 1968; and from fourteen original school districts in the 1968-1969 school year, the figure doubled in the following year, including the state's three largest cities.

The program also appears to be remarkably successful, and the impact on the teachers is quite evidently profound.... Records of some individual classes,
however, indicate strikingly large gains in reading ability during the first year, and on direct observation, the quality of the writing, arithmetic, and science, while uneven, was frequently quite impressive.

What cannot be doubted is that the children are visibly happy and engaged. They express as much enthusiasm for the new approach as do the teachers! School is fun, something new in the heartland of the Protestant Ethic [pp.288-289].

In these classes the children were going to school without having to struggle with their parents. And while some children liked it better in the traditional organization, with its straight rows and its neat rooms, the overwhelming majority of students favored the new approach, in which the students were doing separate activities, working individually in small groups, developing spontaneously dance performances, skits, art productions, and similar activities.

Once again, solid evidence for the success or failure of the program was lacking, but the general observations were highly positive.

Another school in the burgeoning "Free School" movement was one begun in 1966 in Decatur, Illinois. This school also was inspired, in part, by the British Infant Schools and the Children's Community Workshop School in New York City, as well as by A. S. Neill and Jean Piaget. This school was started by a group of mothers, calling themselves the "Radical Moms," who felt that their students were turned off in the traditional classes and so they
took it upon themselves to create "...a school with no grades, no marks, no ringing bells, no tests, no inflexibility—one that would be a real cross section of the community, with emphasis on learning, not teaching [p. 46]."

Once again no statistical data was offered that the school was a success, except random comments by the mothers involved who expressed satisfaction with the experiment.

In 1959 and 1960, Jane T. Sprague taught remedial reading at Thomas A. Edison Jr. High School in Los Angeles, California and reported her results in mimeographed form (1959-1960). Miss Sprague was well-known in the Los Angeles area and her approach to teaching remedial reading on the secondary level, as well as her results, deserve consideration. Although her approach was not as revolutionary as the aforementioned, she did emphasize an individualized approach and did present some statistical evidence for the success of her method and thus would serve as a link between the studies of the first section of this chapter and the ones to follow.

Miss Sprague worked with one hundred and one seventh graders who had taken the Stanford Reading Test, Advanced Form JM, in March of 1959. When the semester began, in September, she explained to them, candidly, what the results of this pretest were, and told them that they could improve their scores dramatically if they
would do one thing: read for one hour a day throughout the semester. She spent two days at the beginning of the semester discussing all the books in the room, as well as having the students openly express their attitude toward reading, toward their parents, and toward school. Miss Sprague heard their feelings, and accepted them. Then, with this rapport established and the books presented, she allowed the students to choose the book they would start on. The reading, at this point, had to be done in class, and any book could be returned if it proved to be uninteresting to the reader.

Miss Sprague worked separately with the readers who were having extreme difficulty, have them read to her. She generally described two remedies: to read more slowly and to rely on phonics.

She appealed to the students' self-esteem, telling them that they were not reading children's books which presented the points obviously but rather were reading books which demanded more concentration because the books made their point by implication.

After the class had developed their concentration and were able to sustain the period of silent reading, Miss Sprague allowed the students to take home the books. As a book was finished, she asked the student what he felt about it and entered this in her roll book.

Toward the end of the semester, the students'
attitudes towards reading seemed to change, for they all could enter the class, find a book, and read all period. Miss Sprague, too, would read at her desk, feeling that this aided their concentration.

The posttest was administered in January, 1960. The mean score on the pre- and posttests were as follows: pretest word meaning, 5.25; paragraph meaning, 5.00; posttest word meaning, 6.53; paragraph meaning 7.03. The expected gain in the seven months would be .7; however, the students gained 1.28 in word meaning and 2.02 in paragraph meaning.

While the statistics presented were relatively unsophisticated and no evidence for change of attitude could be substantiated except by inference, and, further, no control group was used; nevertheless, it seemed that an increase in some reading skills could be gained by a teacher who was honest with the students and who stepped back from the classroom scene to allow the students to choose books on their own, read them without pressure, and not be assigned book reports or given tests. It would seem that this approach to the teaching of reading might well be emulated by others and that, furthermore, a teacher who was unwilling to change completely the classroom into an open classroom might find security as well as a sense of accomplishment by trusting that improvement in reading could be obtained
by simply letting the students read.

In this foregoing section, the reader can see that radical changes have been occurring recently in education. However, there exists no great body of statistical data to indicate conclusively that this approach was successful in improving the learning or the attitudes of the students. The teacher who wishes to embark on a new approach to education must do so assuming full responsibility for the risk that he is taking, for there is no support which conclusively indicates that this radical attempt will produce positive results. But in the near future, more evidence will be forthcoming which should indicate the relative success or failure of these projects. It must be realized, however, that there will be no one best way to teach and that the teacher must look into himself and make a decision as to what approach would be best for himself and thus for his students. He must work with this approach, analyze it, and then modify it. Through this open searching and questioning, the teacher dedicated to creating a worthwhile, meaningful classroom for his students will ultimately find his success.

Literature that made Statistical Comparisons between the Teaching of Reading in an Informal Individual Setting versus a more Traditional or Group Setting

In Hooked on Books: Program and Proof (1968), Daniel Fader proposed a school situation in which there would be "English in Every Classroom," and while many
administrators claim that "all teachers are English (and reading) teachers," Fader would make this a reality. All teachers would surround the students with attractive publications that would be read, principally paperbound books, magazines, and newspapers; and he would remove the traditional texts. The teacher would have the attractive books available and would insist that writing be done on a daily basis. Fader believed that through constant writing and constant reading one would become, if not proficient, then, at least, greatly improved in both areas.

Fader set up his program at the W. J. Maxey's Boy's Training School in Michigan. He was fortunate in finding generous book distributors who donated thousands of paperbound books, so that the curriculum could be based around them. Since this school was not a public one, where there were no state-mandated curriculum requirements, Fader had free rein as to what and how the material would be presented. Fader went to work in his experiment in this unusual setting, treating the students as human beings, being on their level, encouraging them to read varied books, and to write about anything, even if the students would only copy words from a book. Over everything else in this program, the students were praised for whatever they accomplished.

For the statistical comparisons, another midwestern training school was used as the control group. Much of
the statistical data dealt with the attitude of teachers based upon the race of the student. The students were given attitudinal tests, which dealt with their attitudes towards school, reading, and themselves. Their academic development was measured by a test of verbal proficiency which Pader and McNeil devised. Essentially, it consisted of writing as much as a student could about five open-ended topics (e.g., "Write all the uses you can think of for tin cans, bottles, or milk cartons [p. 200].") From this the tester determined how many words were written and how many separate ideas were expressed.

The researchers made use of $t$ scores and $F$ ratios in reporting their findings, which were, in part, as follows: the self-image of the Maxey boys increased over the two years, but not significantly, while the self-image of the control group decreased, but not significantly; however, the $F$ ratio between the two groups indicated a significant difference at the .05 level in favor of the Maxey boys. In an anxiety score, the same pattern was seen, but more dramatically, with the Maxey boys feeling better about school, while the control group regressed in their feeling. The $t$ score on the posttest was significant at the .001 level. On the verbal proficiency test, the Maxey boys did better in ideas, words, and number of letters per words at the following levels of significance: .10, .07, .001.
The applicability of these results to a regular public school are uncertain. In the report of the program given by Fader, there is no question but that the students were treated as human beings and were given every opportunity to pursue leisure reading and writing and to be certain of receiving nothing but praise for their efforts. Thus, it was not surprising that their attitudes about school and themselves improved. On the other hand, the treatment that was involved with the control group was not explained, but one can assume that the usual treatment of boys in a training school would not tend to make them feel better about themselves or school; as a matter of fact, the boys' attitude grew worse. The results on the verbal proficiency test did favor the Maxey boys, but only statistically significant in one area, that dealing with the number of letters per word. It would be difficult to find proof in the study that would apply to the regular public school.

Schab (1959) attempted to determine the effect on achievement of two different methods of instruction in remedial reading, one being teacher-planned activities and the other instruction technique being teacher-pupil-planned activities. The former employed supplementary readers, assigned library books and the usual drills designed to develop reading skills, while the latter aimed at maximum ego involvement of the pupils and dealt with
reading materials which were developed cooperatively by the students. The students involved were fifth graders of one year or more below normal reading progress. There were twenty-eight periods of fifty-five minutes each which were used for the remedial instruction.

The gains in reading achievement, found after the administration of the posttest, were treated by an analysis of variance, using the $F$ test of the significance of differences at the .05 level of confidence. The $F$ test was applied to the differences in gains attributable to the teachers' methods and the interaction between them.

It seemed that while the gains in average reading achievement made by the children in the groups taught by the teacher-planned methods were greater than those in the teacher-pupil-planned activities, they were not significant. The groups being instructed in the teacher-planned activities were statistically superior in spelling and in science. However, observations and comments made by the regular special teachers concerning changes in attitude, interest, and general behavior were more favorable to pupils in the teacher-pupil-planned activities groups. Comments made by the same teachers about the behavior of the pupils taught by the teacher-planned activities method were frequently negative.

This study concluded that remedial reading instruction conducted in a permissive atmosphere can achieve results
similar to those obtained by more systematic techniques; however, the teacher-pupil-planned activities approach was more likely to result in the development of positive attitudes towards reading.

Morris (1970) investigated the differential effectiveness of two approaches to the teaching of literature upon the development of appreciation in sixth-grade pupils. The pupils were blocked into three mental maturity levels: low, middle and high, and then were randomly assigned either to a "Pre-Planned Sequentially-Structured Group" or an "Incidental-Unstructured Group." Each treatment group had twenty-one subjects with seven in each intelligence level. With the Incidental-Unstructured Group, they did not follow any previously planned lessons; rather, a program evolved from joint pupil and teacher planning. On the other hand, in the Pre-Planned Sequentially-Structured Approach, the teacher determined exactly what was to be done by the students.

Statistically, analysis of variance was applied to the literature appreciation test and a comparison of the two means was used. The most significant result from the test (although the level of significance was not indicated) was that "an approach which provided opportunities for individual and small groups activities appears to be more effective in establishing favorable attitudes toward literature in pupils of high and middle intelligence than
in pupils of lower intelligence [p. 2261-A].

This observation might be taken into consideration by teachers who are planning to create a relatively unstructured program for students of low intelligence.

Friedman (1964) attempted to compare the relative effectiveness of the reading-for-pleasure-program with that of the traditional-skill-oriented-program in producing reading improvement in the areas of silent reading ability and oral reading ability as well as improvement in their attitude toward reading and their self-concept. In the reading-for-pleasure-program, the students read newspapers and stories, produced skits with a minimum of teacher participation, and had no direct instruction in reading skills. In the skill-oriented-program there was maximum teacher involvement in the instruction and techniques for increasing such basic reading skills as word attack, vocabulary, and comprehension.

The sample consisted of one hundred and sixteen students retarded at least one and one-half years in the junior high school. Twenty-two matched pairs were selected from the sample on the basis of socio-economic status, sex, IQ, and silent reading ability. Experimental controls employed included random assignment of teachers to the program, conferences with the teachers, published program descriptions, and periodic visits to the classes by the investigator. The test-retest interval was
fifteen weeks and the statistical model involved both group and matched-pair data. A nonparametric (chi-square) evaluation of group test-retest gains compared the two programs by class, by total enrollments of programs, and by socio-economic status. The Wilcoxon matched-pairs signed-risks test assessed the significance of differences between the matched pairs. The .05 level was the criterion for rejecting the null hypothesis, with a two-tailed rejection region.

The essential findings and conclusions of the program were that the reading-for-pleasure program and skill-oriented program were equally effective in producing reading improvement. Improvement of basic reading skills was obtained in the reading-for-pleasure program despite lack of direct instruction in these skills. A recommendation was that "despite current opinion to the contrary, the potential contribution of less formal, less authoritarian approaches to the education of lower socio-economic students should be considered [p. 511]."

Friedman's study was over only a short period of time, approximately equivalent to one semester, and it seemed to have good controls and made use of sound statistical design. The conclusion regarding the reading-for-pleasure program might give some support to a teacher who is attempting to set up a more informal type of program similar to one designed by Fader or Sprague:
however, no results were reported for the change in attitude toward reading or the student's self concept.

Meiselman (1963) attempted to assess the comparative merit of two reading programs, the individualized and the basal readers, with retarded readers in the fourth, fifth, and sixth grades of a large urban school. Paired groups were used, and Meiselman attempted to increase their reading ability along with their attitude toward reading.

Generally, no significant differences occurred between the two groups in their reading achievement. However, concerning attitude toward reading, a comparison of the pretest and posttest scores on the interest inventory did not favor either group, yet the pupils in the individualized reading program read twice as many books as those in the basal reading program, and the written statements of the individualized reading groups in June indicated a more favorable attitude toward reading.

While Meiselman's study did not establish the hypothesis that retarded readers using individualized programs would make greater gains in reading achievement than those using a basal reading program, it did support the hypothesis of their developing a more positive attitude toward reading. This study, however, had to rely on inference to determine the increase on improvement in attitude since the interest inventory did not establish any statistical significance.
Camper (1966) compared two methods of teaching reading, individual and group, to fourth, fifth, and sixth grade students in Maryland. Two equated children's groups were formed: the experimental group which was taught reading skills individually, and the control group which was taught reading skills in a group. The groups were equated according to criteria of repetition of grades, age, health, emotional status, socio-economic status, reading achievement, mental ability, number, and sex. They were taught by teachers equated in turn according to the criteria of interest, education, experience, competence, sex and marital status.

The statistical analysis indicated significant differences of the comparable means. Of the tests given (California Reading Test and the Durrell Analysis of Reading Difficulty Test), it seemed that in most of the subtests the differences were significant and favored the individual method. Moreover, the children of teachers in the experimental group showed a more favorable attitude toward reading. These children read significantly more books than the children taught under the group method. The null hypothesis was rejected in favor of the individualized reading approach.

Camper's study seemed greatly significant, for the groups were set up with much care, the teachers were carefully selected to be equal in ability and interests, and
the results both in reading skill and attitude favored an individualized approach.

Skelnick (1963) compared the effects of individualized reading instruction and three-ability group instruction on high and low anxious children in the second and third grades. He matched the boys and girls in intelligence, age, reading group level, socio-economic level; and the teachers who volunteered to participate on the program were matched on a teacher attitude inventory by the principal and by their years of experience. Both the teachers and the students were assigned randomly. The teachers assigned to the individualized reading method prepared themselves by extensive reading in the literature, discussions with the writer, and field trips to observe the program in action. Teachers assigned to the three-ability group method studied the literature, held discussions, and read professional teaching manuals.

A pretest was given to the children both in reading ability and anxiety scale and statistically there was no significant difference in the final mean scores on the test of reading of the high anxious children, of the individualized reading classes, of the high anxious children in the three ability classes, or in the low anxious children in the two groups. Thus, the study indicated that the claims of the beneficial effects of individualized reading instruction and the harmful
effects of ability groups were not supported by the data.

During the same year Gold (1963) compared the effectiveness of group reading instruction and individualized reading instruction in high school students who were underachieving in reading. The experiment consisted of forty students, thirty boys and ten girls, selected from the tenth grade, their IQ ranging from 85 to 117 and the subjects scored in the lowest quartile of the grade population of which they were part, and below the 50th percentile in comparison to the national norm on the reading test used in the study. All of the subjects were underachievers in reading and many manifested problems in personal and social adjustment.

Each group received twenty sessions of instruction in the period of three months. Sessions were held twice weekly during the available study periods of the subjects. Gold served as the instructor for both groups.

It was hypothesized that there would be no statistically significant difference between the programs for improvement of the variables under investigation and in Gold's study it was seen that the subjects in both groups read approximately the same number of books, while the individualized program tended to promote a more favorable reaction to reading instruction and tended to promote more independent reading of all kinds of material; however, the differences here were not statistically significant.
The only exception was that the group program was more effective for improving the rate of reading and the group plan tended to be more effective in improving reading achievement as a whole.

It seemed that Gold's study favored the group reading instruction; however, there did tend to be a favorable change in attitude in the independent reading group.

Rothrock (1961) attempted to determine if there was a significant difference in reading achievement when it was taught by a heterogeneous, a homogeneous grouping plan, or an individualized plan. The experiment was carried out in fourth- and fifth-grades of three public schools in Kansas. The heterogeneous plan could be described as a typical developmental reading program. The homogeneous plan called for the regrouping of students by reading ability for the reading period only. The individualized reading plan called for the use of library reading material as the basic material for the program. The pupils were allowed to select their own material, proceed at their own pace, and work on areas in which they were having difficulty.

Statistically, the analysis of covariance, multiple classification, was used to determine whether there had been a significant difference in gains among the approaches in the eight month period between the two tests. Adjusted means were then made for tests which showed
significance at the .01 level.

The conclusions drawn from the results were that no one of the plans produced consistently better results with the first and fourth quartiles of the pupils. Some ability grouping or individualization of instruction seemed to be of some help to the slower students in developing work study skills. It was possible for individual students to make good gains under all the approaches and it was also found that a few students failed to make a gain under any of the plans. The group which followed the individualized approach seemed to form a more favorable attitude toward reading as measured by an attitude survey. They also appeared to do most library reading as measured by records kept by the number of library books read.

Here it was seen again that attitudes seemed to improve in the individualized program, although there was no statistically significant improvement following this plan in reading skills.

Summary

General observations that can be made from these studies seem to indicate that there was not too much significant difference in reading achievement whether the method used was individualized or if it was teacher-planned and group-structured. On the other hand, the studies tended to indicate that the students who were
involved in individualized pupil-planned activities seemed to gain a better attitude toward reading. However, not very reliable measurement instruments were used to determine this but, rather, inferences, observations, and tallying the number of books read by the students. What seemed to be needed was an attitudinal test which could convincingly indicate that the attitudes of the pupils towards reading changed. Many of the studies which seemingly attempted to deal with attitudes frequently reported nothing at all in this area, and nothing was indicated regarding the attitudes of the children toward school or toward themselves except in the case of Fader. However, due to the nature of the institution involved in his study, his results seemed questionable in their applicability to the public school.

On the whole, an individualized, informal approach seemed to produce results in achievement on a level equal to a more planned approach, with perhaps a slight benefit in this area going to the more structured approach.

Some of the results were contradictory, and from them a reader would have great difficulty in finding definitive proof to indicate that one method was better than another.
CHAPTER III
Description of Research Methodology

Overview

This chapter presented the methods used in the student-centered and teacher-centered classrooms, as well as the statistical data necessary for statistical comparisons.

This data was used primarily to show the improvement in achievement in reading and attitude toward reading, school, and self both within each class and between the classes, with the emphasis being on boys and girls separately rather than the total class.

Description of Population and Sample

The school where the study took place was James Monroe High School, a Los Angeles City School with an enrollment of over 4000 students and a faculty of 160 teachers. Both the students and teachers may be categorized as white, middle class.

All tenth graders took the Comprehensive Tests of Basic Skills (CTBS) October 1970, while enrolled in their regular English 10A (first semester) class. Those who scored below the 25th percentile (approximately 8.0 grade level) in reading on this standardized test were to be placed in an English 10B (second semester) "R" (remedial) class in February 1971. This percentile ranking presumably indicated that the student did not meet the state
and local minimum academic standards (California Administrative Code, Title 5, Section 1601).

During the first week of the second semester in February, the students who were to be placed in these remedial classes were told by their first semester teacher to report to a different room and a different teacher. The students were not told why nor were they given the results of the October test. Thus, in a rather bewildered state, the students began their one semester remedial reading course which was designed to meet the state and local requirements.

In this teacher's class, which met periods 3 and 4 (approximately 10:30 to 11:30 and then 11:30 to 12:30) there were twenty-one students period 3 and sixteen, period 4. This compared to the teacher-centered classes which were offered period 1 and 2 (approximately 8:00 to 9:00 and 9:00 to 10:00) with an enrollment of twenty-three pupils period 1 and twenty-one period 2.

However, this teacher could obtain complete results on the achievement test and attitudinal survey from only twenty-three of his total students and the same number of students from the two periods taught in the teacher-centered manner. It should be made clear that the students involved in the pretests were the same as those in the posttests.

IQ data (California Test of Mental Maturity, administered in either the A7 or B8 semester) was available for
only twenty-one of the students in the student-centered classes and the same number in the teacher-centered classes, further reducing the sample that this teacher was able to report on the analysis of covariance used to compare the posttests on the achievement tests. The mean IQ's were as follows: Student-centered class: boys: 95.73, girls: 93.30, total: 94.57; teacher-centered class: boys: 96.00, girls: 97.90, total: 96.99.

The sex distribution of the students in the two groups was almost identical, with there being twelve boys and eleven girls in the student-centered classes and the reverse number in the teacher-centered classes.

There was no significant difference in age between the two groups who were studied. All of the students were in the fifteen- to sixteen-year old range.

Instrumentation

Two measurement instruments were used in this study. First was the Comprehensive Tests of Basic Skills (CTBS) published by McGraw Hill. Level 4 (Grades 8 to 12), Form Q, Test 3, Vocabulary, and Test 4, Comprehension, were the ones administered to the students in the beginning of October 1970. This test produced three scores: Vocabulary, Comprehension, and Total (the sum of the first two scores). The "Total" score was used to determine which students would be placed in the remedial classes under investigation, and this teacher used all three scores as the pretest scores. The same test was
readministered in June, 1970, serving as the posttest scores.

The other instrument used was an attitudinal scale (see Appendix B) developed by this teacher. The scale consisted of two related parts: part I (not termed so on the scale but designated so in this study) contained twenty questions which had the students respond by circling a number from 1 to 5, with "1" standing for "not at all," "2" for "a little," "3" for "undecided," "4" for "much" and "5" for "very much." This point system was maintained in scoring the data, with items designated by this teacher as reflecting a negative attitude treated opposite numerically, i.e., "5" was scored as "1," etc.; part II (not termed so on the scale but designated so in this study) contained forty questions which had the students respond by circling "yes" if he generally agreed with the statement, "sometimes" if the statement described how he occasionally felt, and "no" if he generally disagreed with the statement. This teacher assigned a point system of "3," "2," and "1" to correspond to the "yes," "sometimes," and "no" in scoring the data, again with items designated by the teacher as reflecting a negative attitude treated opposite numerically, i.e., "yes" was scored as "1" instead of "3," etc.

Both parts of this attitudinal survey sought to determine the student's attitude in three areas: reading,
school, and self. However, since only ten of the twenty items in part I dealt with these areas, as determined by this teacher (see Appendix C), while thirty-eight of the forty items in part II dealt with the three categories, as determined by this teacher (see Appendix C), the burden for information on attitudinal characteristics rested with part II, although there was general correlation in the results between both parts.

This scale was administered by this teacher and the cooperating teacher in February 1971, four days after the students entered the class, and then again in the second week in June, the June test serving as the posttest.

Since the environment created by this teacher was felt to be significant in changing the attitudes of the students, the students of this teacher took the attitudinal scale in a traditional classroom setting prior to their exposure to the informally structured classroom which would be their environment for the rest of the semester.

It should be noted that the attitudinal scales were taken anonymously by all the students concerned.

**Teaching Approaches and Procedures**

**Student-centered** In this study there were two teaching approaches used: the one used by this teacher was termed "student-centered," while the one used by the cooperating teacher was termed "teacher-centered."

This teacher's approach was as follows: he felt it
important to create a classroom environment which, to the
degree possible, would cause the student's dislike for
school to be diminished, and for those who liked school,
he hoped that the new atmosphere would enhance this
feeling. In this classroom, the trapping of the tradi-
tional classroom, such as chair desks in rows, the
teacher's desk in front of the room, the tile floors, the
bulletin boards concerned with specific units, were re-
placed by comfortable furniture such as old sofas and
stuffed chairs. This teacher's desk became in conspi-
cuous in a corner. Carpeting and pieces of rug covered
the tile, and attached to the walls and bulletin boards
were articles about teenagers, sex, drugs, schools, race,
as well as posters, which had a contemporary flavor
appealing particularly to an adolescent. Some posters
depicted motorcycles, other psychedelic sunsets. Many
posters had uplifting, supportive expressions, such as:
"You're fabulous! Can you dig it?" and "In the midst of
winter I found within me an invincible summer" and
"Smile! It increases your face value." A bed sheet,
eight feet by eight feet, was along a wall, carrying a
message, "Books can turn you on!" Books were throughout
the room, as well as in four spinning book racks six feet
high. A student brought in a radio-record player, thus
enabling there to be music all of the time. The room,
therefore, was one of informality, comfort, and relaxa-
This informality was carried through in a matter in which this teacher desired to be addressed, i.e., by his first name. He felt that through this informal address, he could be more readily accepted as a person, rather than as the traditional, dominant teacher. Approximately fifty per cent of the students in these remedial English classes did address this teacher by his first name. Along with informality of address to him, the students were allowed to use their usual language in the classroom, with no censoring being done by this teacher.

Regarding learning, the aim of this teacher was to place the major responsibility for learning on the learner. This teacher felt that the student must be responsible for his life, and that his days in school were part of his life, and thus the student was to accept this responsibility for his learning in these student-centered classes. The student first was given the opportunity to create his own semester plan (see Appendix D) putting down on this paper what he felt he wanted to work on during this semester. Also on this plan sheet, the student was to instruct this teacher how he could best assist the student in the student's learning. This teacher saw his function as determining if the student had a viable semester plan and assisting him in achieving the plan.
During each week of the semester, the student was urged by this teacher to fill out a sheet which was a weekly plan (see Appendix E). On this sheet the student was to put what he planned to do during the day and then, at the end of the period, to put what he did do that day. At the end of the week the student was to evaluate how the week progressed and what could be done to improve things. These sheets, as well as the student's other work, were kept in a manila folder which the student went to daily.

This teacher suggested that each student do some daily writing of approximately ten minutes. The writing was to be in the form of a journal, with the telling of daily happenings, or poems, or essays, or simply idle thoughts. The students were told to code each entry by placing a "1", "2", "3", "4," or "5" alongside the piece of writing. "1" indicated that the entry was not to be read; "2" indicated that this teacher was to read the work but make no comment; "3" indicated that this teacher was to correct and comment on the piece as a traditional English teacher would do; "4" meant "Whichever," a word in the parlance of today's youth which meant the writer could deal with the entry in the manner of "2" or "3"; finally, "5" meant that the student wished to share the entry with the class.

The other type of writing which this teacher re-
quested was a short statement indicating what a recently finished book was about and what the reader thought about it. This same procedure was to be followed with books that the student did not finish. These statements were typed and placed behind the book on the spinning book rack. From this, prospective readers would have some indication as to the content and general liking or disliking of the book as felt by other readers who were their peers.

It should be indicated that none of the above-mentioned writing was graded, nor was there any great pressure placed on the students to write every day.

In the student-centered class, grading rested principally with the learner. This teacher felt that the individual involved was best suited to determine where he was at the beginning of the semester and at the end, and what was involved in his moving from the former stage to the latter. This teacher felt that what would be significant progress for one could be stagnation for another, and so he felt it more valid for the student to evaluate his growth in comparison with his own standards. The first sheet that was used in this process of evaluation was a sheet which gave the student the opportunity to write down what standards he felt he should use in evaluating himself (see Appendix F). This sheet was filled out by the student, with the assistance of this teacher, after
one-fourth of the semester was over (approximately five weeks). Another sheet (see Appendix G) was filled out prior to report card time both at the mid-semester (approximately ten weeks) and end of semester (twenty-week) points. On this sheet the student indicated the standards that he would be using in judging himself and the grade he felt he deserved, along with an explanation as to why he felt he deserved the grade. A conference between the individual student and this teacher took place in order for there to be better understanding of the factors involved in the process. After the discussion, some grades were raised, and some grades were lowered, with the student's understanding and general approval. Only a few students felt they could not make any determination as to their grade, and this teacher then attempted to make some judgment that met the student's understanding.

In this grading procedure the student was made aware that he must assume responsibility for his learning and the evaluation thereof; the pressure of passing or "not receiving a good grade" was removed; and this teacher hoped that the self evaluation lessened his negative feelings, particularly toward school.

During a class period, the students generally went to their folders and did their daily lesson plan in writing; however, those who did not (approximately forty per cent)
were not pressured into doing so by this teacher. Some (approximately twenty per cent) felt it a nuisance and ceased doing so. Others (approximately twenty per cent) stopped, no doubt, from the pressure which they felt in being responsible for their daily work along with the absence of doing what is traditionally thought of as "productive work." Most students (sixty per cent) were engaged in silent reading during this typical class. The record player or radio usually was on with the students seemingly undisturbed by this. Some (approximately ten per cent) students wrote, others talked (approximately twenty-five percent); some even slept (one per cent).

This teacher organized, on his own, a tutoring situation, whereby one student in the class would be responsible for tutoring another. The tutors were generally superior readers to the students being tutored, but since this teacher asked for volunteers, a few of the poorer readers (as determined by diagnostic testing done by this teacher) volunteered. This teacher met with the tutors and explained what might be presented to the tutored students. Such things as vowel pronunciation rules, syllabication rules, sheets dealing with paragraphs with scrambled sentences were typical of a possible tutor's lesson. The tutors were given the material, and on the following day presented it to their "pupil." This teacher was available to answer questions and assist in
any way asked.

Along with this tutoring, this teacher met individually, approximately six times during the semester, with each student for approximately twenty to thirty minutes. During these sessions, this teacher worked with the student on difficulties that seemed to have been indicated during diagnostic testing. This testing consisted of the San Diego Quick Assessment Test, the Gray Oral Reading Paragraphs, and the reading of a selection from McCall-Crabbs, Book D.

There were occasional discussions in the classes, informal instruction and initiated either by a student or by this teacher through the suggestion of a student. The discussion typically dealt with such topics as school, sex, jobs, music, etc.

Finally, the students worked with crossword puzzles, word scrambles, word games, and Spell and Spell. Along with the many books, the students brought in magazines, such as Mad, Life, Hot Rod, Cycle, etc., as well as an occasional newspaper. As long as the students were engaged in reading, this teacher accepted their choices. No attempt at censoring was done, but the occasion never arose where censoring might be an issue.

**Teacher-centered class** Since the cooperating teacher in this study had to change rooms almost every period, she could do little to the room she had periods one and
two, the room in which her two remedial English classes met. This room, therefore, was essentially the standard classroom painted pale green and brown. There were five rows of seven chair-desks, two spinner racks of books, two posters on the walls, and one SRA-IIIA laboratory kit on a desk. The teacher's desk was at the front of the room.

The teacher had the work organized so that anyone could pass with a "C" if he did the minimum assigned work, or at least made a sincere effort to do so. She made the minimum assignment for a week, a typical assignment being the reading of one short story or one play and the answering of questions on it. SRA work might be involved in a minimum assignment, or word development exercises. As she indicated to this teacher, she wished to have the students actively engaged in concrete reading work for at least thirty minutes of a fifty minute period. She gave the student an "x" in her roll book to indicate that he did the assignment. This minimum work was not otherwise graded. She might indicate to him that the work was deficient in some aspect, but that was all.

The student who did not do the minimum assignment might receive a "D," but no one who was present a reasonable number of days could receive an "F," since their being present in the classroom entailed active involvement with learning activities. Thus, if a student attended
the class, he would pass the course, satisfying the state and local requirements.

Students could receive an "A" or "B" by meeting the minimum standards as well as by doing extra work, such work being the reading of books, the writing of book reports, the giving of oral reports, the making of posters, the working on vocabulary development, etc. All this work, as well as the minimum work, was kept in an individual log, which was checked throughout the semester. The teacher indicated to this teacher mixed feelings about giving "A's," because she felt the student might move into a less protective environment and find himself unable to do as well as he was doing in her class; nevertheless, a few students did receive "A's."

The teacher also presented work sheets to the class, these sheets dealing with inferential thinking, analogy, sequence of events in stories, getting the main idea, vocabulary development, etc. This work was generally graded and testing was done.

She felt that it was important for the student to become proficient at test taking, since this might become part of his young adult or adult life. This skill, as far as she was concerned, centered around an attitude which said that the test might be foolish, or that a question might be foolish, but that the student had to put that feeling aside and do his best to answer the
question based upon what was definitely known or given.

Since the CTBS was mainly testing for vocabulary and reading comprehension (with much vocabulary in the Comprehension subtest), it might be valuable to state what the cooperating teacher did in the areas of vocabulary and comprehension. It should be noted, however, that neither she nor this teacher saw the test until the re-testing was done in June. This was not planned, but occurred since the cooperating teacher was not involved in the testing and this teacher was on sabbatical leave.

She worked on vocabulary development in three main ways: first, when she spoke to the students and used a semi-academic word, she would ask them what it meant, or she would give a synonym or explain its etymology; second, when she had them reading a story, she would first present the story in outline form and make certain that any difficult words were understood; third, she would have them use sheets that contained difficult words in context, and then have the students find an easier synonym that was listed on the bottom of the page.

Reading for comprehension was done primarily by having the students silently read stories and answer questions, and also by orally reading plays (and occasionally stories) and discussing what they were about. She also made use of mimeographed sheets which dealt with this skill.

It should also be mentioned that she had two units,
for approximately one month each, on witchcraft and sports. The students did some research in the library on the topics, read books, made posters, and generally became involved in the study.

There were also discussions in the classes, but these were not planned or scheduled. Since she was voluble, it was not unusual for discussions to evolve out of a comment or an idea in a story being read by the class.

When observed by this teacher, the period 1 class was quiet, most students doing what was assigned. These students who were engaged in "extra" reading had their names on the chalk board along with the title of the book they were reading. In this way, the teacher knew what each student was supposed to be doing, and she periodically checked each student to make sure he was engaged in that work.

General student reaction of period 1 to the cooperating teacher and to the class was that she was "easy" in her demands, but that she knew what each student was doing and would not allow anyone to "goof-off."

When period 2 was observed, the class was involved in the oral reading of a short story. Three-fourths of the class was paying attention, and the reading progressed smoothly. Students raised their hands when they wished to ask a question, and, again, the teacher was in control
of the class. She separated some "trouble makers," and good humoredly, said "Shaddup!" to a student who persisted in talking. She demanded attention, yet there seemed to be a warm feeling between her and her students.

The period 2 students seemed to feel that she was "pretty liberal" and, generally, concurred with the opinions of the period 1 students who were interviewed.

Essentially, this teacher may be classified as traditional: she made the assignments, required students to be actively engaged in work related to the class, gave grades, required attention and silence, and was in charge. Along with this, she did accept the label of "traditional teacher." She seemed to be warm, compassionate, and understanding, creating what is traditionally termed a "productive" atmosphere in the class. She definitely was concerned with the improvement of the students and felt that if these "remedial" students could make some small, attainable progress, they would have a feeling of success along with improvement in reading skills.

The reader finds on this page and the following two a list of activities and characteristics that point up the similarities and differences between the student-centered and teacher-centered classes:

Similarities

1. student kept a folder of his work
2. teachers refrained from creating pressure regarding grades
3. teachers were concerned about student's feelings and success in school
4. teachers seemed to like the students

Differences

<table>
<thead>
<tr>
<th>Student-centered</th>
<th>Teacher-centered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. sofas, rugs, music in class</td>
<td>1. standard classroom</td>
</tr>
<tr>
<td>2. teacher addressed by first or last name</td>
<td>2. teacher addressed by last name</td>
</tr>
<tr>
<td>3. student used any language he wished</td>
<td>3. student used standard classroom language</td>
</tr>
<tr>
<td>4. student determined what he would do during the week and semester</td>
<td>4. teacher made weekly assignments and made certain student was working</td>
</tr>
<tr>
<td>5. student read what he wished</td>
<td>5. teacher required student to read for one-half hour daily</td>
</tr>
<tr>
<td>6. student told teacher how teacher could help</td>
<td>6. teacher helped according to her judgment</td>
</tr>
<tr>
<td>7. student (along with teacher) evaluated his work and determined grade</td>
<td>7. teacher assigned grades based upon amount of work and test scores</td>
</tr>
<tr>
<td>8. discussions based primarily</td>
<td>8. discussions based upon</td>
</tr>
</tbody>
</table>
marily upon student-reactions to story or
suggested topics play read by class
9. teacher relied primarily on student's self-control
for classroom order
9. teacher relied primarily on her ability to control the class

The following differences were so special to each class that they could not be significantly matched:

1. teacher conducted diagnostic testing
2. peer group tutoring (primarily on phonics)
3. teacher met with individual student periodically to discuss reading problems
4. student kept a journal, writing whenever and whatever he wished

Limitations

A major condition of this study, but a primary limitation on the interpretation of the result, was the fact that the study was conducted in a public school in a relatively "uncontrolled" (in terms of research design) environment. The students were exposed to many stimuli, outside influences, and factors both in school and out of school which could have had significant bearing on
the results of this study. Along with this, during the testing and, of course, throughout the semester, the students were under various pressures which might have influenced the work, the results of the tests, the work done in the class, and the motivation of the students to work.

Another limitation was the giving of the Comprehensive Tests of Basic Skills as a pretest in October 1970, while the instruction given by this teacher and the cooperating teacher did not begin until February 1971, thus calling for an implicit extrapolation regarding pretest scores.

Another limitation was the fact that the study lasted only from February until June, a short period of time in which to change reading habits and attitudes that have become engrained during ten years of school work. However, this situation was of great pertinence, since this study was interested in the value of a one-semester course as mandated by the State. Thus, while it was a limitation, it was, on the other hand, an essential aspect of the validity and relevance of the study and the results.

Another limitation was in the administration of the attitudinal test as well as the posttest of the Comprehensive Tests of Basic Skills. These tests were administered by this teacher and the cooperating teacher, and the method of presenting these tests and the attitudes demonstrated during the testing situation
created by the teachers was an uncontrollable variable. While attempts were made to have similar procedures followed, it would seem likely that different attitudes and feelings would exist since two different individuals were administering the tests.

Another limitation were the instruments themselves. The CTBS Comprehension section contained questions that tested skills different from what is usually considered comprehension, and attitudinal surveys are generally held to possess low test validity and reliability.

Another limitation was the Hawthorne Effect, since the students and teachers involved realized they were part of a study.

Another limitation centered on the terms "student-centered" and "teacher-centered." Each teacher and educator would interpret these labels differently. While this teacher might label himself "student-centered" or "humanistic," it would seem likely that another teacher who would apply the same labels to himself would do quite different things in the classroom. For example, this teacher organized tutoring sessions and did diagnostic testing, which might be considered inconsistent with the "student-centered" classroom. Along with this, a teacher who would label herself "traditional" and her classroom "teacher-centered," such as the cooperating teacher under study in this investigation, might be quite
"humanistic" in the sense of being compassionate, warm, and understanding, all of which the cooperating teacher in this study was.

The teachers involved were obviously different in many ways, obvious and subtle. This teacher was a man, thirty-two years old with ten years teaching experience, primarily in English with the last three years being spent in reading. The cooperating teacher was a woman, approximately forty years old, with seven years teaching experience, primarily in foreign languages and English as a second language. The personalities, mannerisms, and communication, both verbal and non-verbal, were unavoidably unique.

In consequence to all of the foregoing, it would seem that any results obtained from this study can only tenuously be said to have been caused by classroom activities which occurred in the rooms of the teachers involved.

Statistical Analysis

In this study the various statistical procedures used to analyze the results were as follows: pretest and posttest on the achievement tests and attitudinal survey; means and standard deviations for both pretests and posttests; the t test (Garrett, 1958, p. 226) for comparing significance of difference between means within a single group on the achievement tests and attitudinal survey
as well as a t-test comparing the significance of difference between means between the two groups on the attitudinal survey (with probability level of .05 or less being needed before statistical significance was assigned); analysis of covariance (using the total IQ from the California Test of Mental Maturity and the pretest as covariates) for comparing the difference between the student-centered class to the teacher-centered class on the achievement test.
CHAPTER IV
Findings

Presentation of the Results

This section presents the results of the testing in the following fashion: (1) for tables 1, 3, and 5 a t-test was used to show significant statistical differences of means (.05) within each class on the CTBS for boys, girls, and totals. The question of statistically significant learning in the class was answered. (2) In tables 2, 4, and 6 the results of the analysis of covariance (with total IQ score and pretest mean as covariates) are presented, with the intent to identify any statistically significant differences between means of the student-centered class and teacher-centered class on the CTBS. (3) In tables 7-12, two different t values were obtained: at the extreme right of the table the t value is given, with asterisk identification of statistical significance of growth within the class; under the columns of "Pretest" and "Posttest" is a t value for the comparison of differences between the classes. The difference between means between groups was obtained by subtracting the teacher-centered class mean from the student-centered class mean.

In all tables, the scores for boys, girls, and total
are given.

**Hypothesis No. 1**

The null hypothesis stated that there is no significant difference (p>.05) of means of the CTBS Vocabulary scores for boys, girls, and total within each class as measured by a t test.

**TABLE 1**

Comparison of Pretest and Posttest on CTBS Vocabulary Test for Student-centered and Teacher-centered Classes

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Difference Between Means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-c Boys</td>
<td>19.35</td>
<td>2.43</td>
<td>22.50</td>
<td>4.23</td>
<td>3.17</td>
<td>4.76**</td>
</tr>
<tr>
<td>T-c Boys</td>
<td>18.18</td>
<td>4.31</td>
<td>23.91</td>
<td>5.59</td>
<td>5.73</td>
<td>4.68**</td>
</tr>
<tr>
<td>S-c Girls</td>
<td>18.18</td>
<td>2.23</td>
<td>19.91</td>
<td>3.51</td>
<td>1.73</td>
<td>3.21**</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>15.75</td>
<td>3.75</td>
<td>21.25</td>
<td>3.02</td>
<td>5.50</td>
<td>9.67**</td>
</tr>
<tr>
<td>S-c Total</td>
<td>18.78</td>
<td>2.35</td>
<td>21.26</td>
<td>4.04</td>
<td>2.48</td>
<td>5.46**</td>
</tr>
<tr>
<td>T-c Total</td>
<td>16.91</td>
<td>4.12</td>
<td>22.52</td>
<td>4.54</td>
<td>5.61</td>
<td>13.61**</td>
</tr>
</tbody>
</table>

*Note: The reliability coefficient was .90. (See Technical Report, Comprehensive Tests of Basic Skills, p. 34.)*

a Student-centered class.

b Teacher-centered class.

*p < .05.

**p < .01.
There was significant difference between the means for all groups, particularly for the teacher-centered girls; therefore, null hypothesis No. 1 was rejected.

These findings indicated that significant learning in vocabulary took place in both the student-centered and teacher-centered classes, with the girls in the teacher-centered class showing the greatest improvement. Hypothesis No. 2

The null hypothesis stated that there is no significant difference in the mean posttest CTBS Vocabulary scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest scores as covariates.
### TABLE 2

**Analysis of Covariance (IQ and Prettest as Covariates) for Posttest Scores on CTBS Vocabulary for Boys, Girls, and Total**

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>12.35</td>
<td>0.806</td>
</tr>
<tr>
<td>Within groups</td>
<td>18</td>
<td>15.32</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>25.49</td>
<td>3.208</td>
</tr>
<tr>
<td>Within groups</td>
<td>16</td>
<td>7.95</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>33.41</td>
<td>2.829</td>
</tr>
<tr>
<td>Within groups</td>
<td>38</td>
<td>11.81</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** See Appendix A, Table A for supplementary data.
There was no significant difference between the classes as measured by the analysis of covariance; therefore, hypothesis No. 2 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in teaching vocabulary, once the initial levels and ability of the learners was taken into account.

The Vocabulary test consisted of forty multiple-choice questions. An example would be:

- disclose the truth
  - A. conceal
  - B. propose
  - C. expose
  - D. resist

Hypothesis No. 3

The null hypothesis stated that there is no significant difference between means of the CTBS Comprehension scores for boys, girls, and totals within each class as measured by a $t$ test.
TABLE 3
Comparison of Pretest and Posttest on CTBS Comprehension Test for Student-centered and Teacher-centered Classes

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean  SD</td>
<td>Mean  SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c&lt;sup&gt;a&lt;/sup&gt; Boys</td>
<td>19.58 4.10</td>
<td>23.67 4.01</td>
<td>4.08</td>
<td>3.22**</td>
</tr>
<tr>
<td>T-c&lt;sup&gt;b&lt;/sup&gt; Boys</td>
<td>18.46 4.20</td>
<td>21.64 5.43</td>
<td>3.18</td>
<td>4.46**</td>
</tr>
<tr>
<td>S-c Girls</td>
<td>20.91 2.66</td>
<td>24.27 5.42</td>
<td>3.36</td>
<td>3.49**</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>19.58 5.04</td>
<td>25.17 7.70</td>
<td>5.58</td>
<td>7.27**</td>
</tr>
<tr>
<td>S-c Total</td>
<td>20.22 3.48</td>
<td>23.96 4.64</td>
<td>3.74</td>
<td>8.70**</td>
</tr>
<tr>
<td>T-c Total</td>
<td>19.04 4.59</td>
<td>23.48 6.80</td>
<td>4.44</td>
<td>6.58**</td>
</tr>
</tbody>
</table>

Note: The reliability coefficient was .91 (See Technical Report, Comprehensive Tests of Basic Skills, p. 34).

<sup>a</sup>Student-centered class.

<sup>b</sup>Teacher-centered class.

* p<.05.

** p<.01.
There were significant differences between the means for all groups, with the larger differences being for the student-centered boys and teacher-centered girls; therefore, null hypothesis No. 3 was rejected.

These findings indicated that significant improvement in comprehension took place in both the student-centered and teacher-centered classes, with the boys in the student-centered class and the girls in the teacher-centered class achieving the greatest improvement.

It might be valuable to indicate some of the questions and material on the Comprehension test to show the reader that vocabulary perhaps played some significant part in the results. Such words as "scuttling," "insectivores," "chittering," "anthropomorphism" were some words used, and on page 10 of this Comprehension section, after the presentation of a letter, the question was asked: "The tone of the letter is: F defensive, G conciliatory, H neutral, or J belligerent." In this question the formal concept of "tone" is being asked of the reader and the four choices for the response would be almost unintelligible to many of the students taking the test due to the high level and/or specialized vocabulary of the test words. On page 12: "Myriads with beating/Hearts of fire/That aeons/Cannot vex or tire"; the question was: "Aeons are A ancient wise men, B stately trees, C weighty problems, or D million of years." This question also
presented a great problem of vocabulary. And on page 14: "Yet, since you ask, my father was Hippolochus and his father was Bellerophon, and I am Glaucus, who rules in Lycia with King Sarpedon." This too would totally upset and demoralize many of the students taking the supposed Comprehension test due to the vocabulary and nature of the language which includes references requiring specific factual knowledge.

Hypothesis No. 4

The null hypothesis stated that there is no significant difference in the mean posttest CTBS Comprehension scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest scores as covariates.
TABLE 4
Analysis of Covariance (IQ and Pretest as Covariates) for Posttest Scores on CTBS Comprehension for Boys, Girls, and Totals

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>7.01</td>
<td>0.386</td>
</tr>
<tr>
<td>Within groups</td>
<td>18</td>
<td>18.16</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>0.27</td>
<td>0.008</td>
</tr>
<tr>
<td>Within groups</td>
<td>16</td>
<td>33.16</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>1.37</td>
<td>0.054</td>
</tr>
<tr>
<td>Within groups</td>
<td>38</td>
<td>25.53</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: See Appendix A, Table A for supplementary data.
There was no significant difference between the classes as measured by the analysis of covariance; therefore, hypothesis No. 4 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in teaching comprehension.

Hypothesis No. 5

The null hypothesis stated that there is no significant difference of means of the CTBS Total (Vocabulary plus Comprehension) scores for boys, girls, and total within each class as measured by a t-test.
### TABLE 5
**Comparison of Pretest and Posttest on CTBS Total Test for Student-centered and Teacher-centered Classes**

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-c Boys</td>
<td>33.92</td>
<td>5.21</td>
<td>46.17</td>
<td>6.13</td>
<td>7.25</td>
<td>5.07**</td>
</tr>
<tr>
<td>T-c Boys</td>
<td>36.64</td>
<td>7.63</td>
<td>45.55</td>
<td>9.90</td>
<td>8.91</td>
<td>8.30**</td>
</tr>
<tr>
<td>S-c Girls</td>
<td>39.10</td>
<td>3.40</td>
<td>44.18</td>
<td>7.45</td>
<td>5.09</td>
<td>3.87**</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>35.33</td>
<td>7.72</td>
<td>46.42</td>
<td>8.89</td>
<td>11.08</td>
<td>13.58**</td>
</tr>
<tr>
<td>S-c Total</td>
<td>39.00</td>
<td>4.34</td>
<td>45.22</td>
<td>6.72</td>
<td>6.22</td>
<td>10.19**</td>
</tr>
<tr>
<td>T-c Total</td>
<td>35.96</td>
<td>7.53</td>
<td>45.00</td>
<td>9.14</td>
<td>10.04</td>
<td>15.59**</td>
</tr>
</tbody>
</table>

**Note:** The reliability coefficient was .95 (See Technical Report, Comprehensive Tests of Basic Skills, p. 34).

*a Student-centered class.

*b Teacher-centered class.

*p<.05.

**p<.01.
There were significant differences between the means for all groups, particularly the teacher-centered girls; therefore, null hypothesis No. 5 was rejected.

These findings indicated that significant improvement in the combined Vocabulary-Comprehension scores took place in both the student-centered and teacher-centered classes, with the girls in the teacher-centered class showing the greatest improvement.

Hypothesis No. 6

The null hypothesis stated that there is no significant difference in the mean pretest CTBS Total (Vocabulary plus Comprehension) scores between the student-centered and teacher-centered classes for boys, girls, and total as measured by an analysis of covariance using IQ and pretest scores as covariates.
TABLE 6

Analysis of Covariance
(IQ and Pretest as Covariates)
for Posttest Scores on CTBS
Total for Boys, Girls, and Total

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>0.71</td>
<td>0.016</td>
</tr>
<tr>
<td>Within groups</td>
<td>18</td>
<td>45.72</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>18.16</td>
<td>0.420</td>
</tr>
<tr>
<td>Within groups</td>
<td>16</td>
<td>43.29</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between means</td>
<td>1</td>
<td>14.04</td>
<td>0.344</td>
</tr>
<tr>
<td>Within groups</td>
<td>38</td>
<td>40.76</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: See Appendix A, Table A for supplementary data.
There was no significant difference between the class as measured by the analysis of covariance; therefore, hypothesis No. 6 was not rejected.

These findings indicated that neither a student-centered nor a teacher-centered class was more effective in producing statistically significant differences in a combined Vocabulary-Comprehension score.

Hypothesis No. 7

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey in reading, part I, for boys, girls, and totals within each class as measured by a t test (see Table 7).

Hypothesis No. 8

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey in reading, part I, for boys, girls, and totals between the student-centered and teacher-centered classes as measured by a t test (see Table 7).
### TABLE 7
Comparison of Pretest and Posttest Means on Attitudinal Survey in Reading, Part I, Both Within and Between the Student-centered and Teacher-centered Class

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Difference between means</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-c Boys</td>
<td>11.08</td>
<td>3.06</td>
<td>13.42</td>
<td>2.57</td>
<td>2.34</td>
<td>2.05</td>
<td>.05</td>
</tr>
<tr>
<td>T-c Boys</td>
<td>11.55</td>
<td>2.77</td>
<td>10.36</td>
<td>3.41</td>
<td>-1.19</td>
<td>.89</td>
<td>.89</td>
</tr>
<tr>
<td>Difference between means</td>
<td>-.47</td>
<td>3.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-.39</td>
<td>2.41*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Girls</td>
<td>12.09</td>
<td>3.45</td>
<td>13.00</td>
<td>4.38</td>
<td>.91</td>
<td>.54</td>
<td>.54</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>10.83</td>
<td>2.86</td>
<td>10.33</td>
<td>3.14</td>
<td>-.50</td>
<td>.41</td>
<td>.41</td>
</tr>
<tr>
<td>Difference between means</td>
<td>1.26</td>
<td>2.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>.95</td>
<td>1.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Total</td>
<td>11.57</td>
<td>3.22</td>
<td>13.22</td>
<td>3.48</td>
<td>1.65</td>
<td>1.68</td>
<td>.05</td>
</tr>
<tr>
<td>T-c Total</td>
<td>11.17</td>
<td>2.77</td>
<td>10.35</td>
<td>3.20</td>
<td>-.82</td>
<td>.92</td>
<td>.01</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.40</td>
<td>2.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>.45</td>
<td>2.93**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a* Student-centered class.

*b* Teacher-centered class.

* p < .05

** p < .01
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 7 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in producing a statistically significant change in attitude toward reading; however, the results indicated that the student-centered environment did tend to produce improvement in the attitude of the students, particularly the boys, while the teacher-centered environment tended to produce a negative attitude in reading.

There was significant difference between the means of the posttests on the attitudinal survey of reading, part I, for boys, and total in favor of the student-centered environment; therefore, null hypothesis No. 8 was rejected for boys and total.

These findings indicated that a student-centered atmosphere produced a more positive attitude toward reading, especially for boys, when compared to a teacher-centered atmosphere. This result was due, in part, to a negative change in attitude of the students in the teacher-centered class.

The following were the questions which the students had to respond to (see Appendix B and C):

5. Reading magazines
11. Reading books
16. Reading newspapers
17. Working on improving my reading

Maximum possible score: 20

Hypothesis No. 9

The null hypothesis stated that there is no significant difference in the means on the attitudinal survey in reading, part II, for boys, girls, and total within each class as measured by a t test (see Table 8).

Hypothesis No. 10

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey on reading, part II (see Table 8), for boys, girls, and total between the student-centered and teacher-centered classes as measured by a t test.
### TABLE 8

**Comparison of Pretest and Posttest Means on Attitudinal Survey in Reading, Part II, Both Within and Between the Student-centered and Teacher-centered Class**

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean SD</th>
<th>Posttest Mean SD</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-c&lt;sup&gt;a&lt;/sup&gt; Boys</strong></td>
<td>15.17 3.21</td>
<td>15.67 3.17</td>
<td>.50</td>
<td>.38</td>
</tr>
<tr>
<td><strong>T-c&lt;sup&gt;b&lt;/sup&gt; Boys</strong></td>
<td>14.18 4.12</td>
<td>12.00 3.07</td>
<td>-2.18</td>
<td>-1.41</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.99</td>
<td>3.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>.63</td>
<td>2.82*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S-c Girls</strong></td>
<td>16.36 5.26</td>
<td>17.91 4.09</td>
<td>1.55</td>
<td>.77</td>
</tr>
<tr>
<td><strong>T-c Girls</strong></td>
<td>16.08 3.37</td>
<td>15.33 3.98</td>
<td>-.75</td>
<td>-.50</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.28</td>
<td>2.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>.53</td>
<td>1.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S-c Total</strong></td>
<td>15.74 4.26</td>
<td>16.74 3.73</td>
<td>1.00</td>
<td>.85</td>
</tr>
<tr>
<td><strong>T-c Total</strong></td>
<td>15.17 3.79</td>
<td>13.74 3.89</td>
<td>-1.43</td>
<td>-1.27</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.57</td>
<td>3.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>.48</td>
<td>2.38*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Student-centered class.

<sup>b</sup>Teacher-centered class.

*<sup>p</sup> < .05.

**<sup>p</sup> < .01.
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 9 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in producing a statistically significant change in attitude toward reading; however, the results did indicate that the teacher-centered environment tended to produce a negative attitude, particularly for boys.

There was significant difference between the means of the posttests on the attitudinal survey of reading, part II, for boys, and total in favor of the student-centered environment; therefore, null hypothesis No. 10 was rejected for boys and total.

These findings indicate that a student-centered atmosphere produced a more positive attitude toward reading, especially for boys, when compared to a teacher-centered atmosphere. This result was due, in part, to a negative change in attitude of the students in the teacher-centered class.

The following were the questions to which the students had to respond (see Appendix B and C):

4. I hate books
7. I read a newspaper almost every day
14. I would rather watch T.V. than read
25. I often read when I have some free time
28. I read magazines a lot
31. Books are things I like to have around
36. I hardly ever finish a book
39. I only read when I'm forced to
Note: Answers are in the following form:

yes    sometimes    no

3        2         1

Items 4, 14, 36, and 39 were marked in reverse order.

Maximum possible score: 24

Hypothesis No. 11

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey in school, part I, for boys, girls, and total within each class as measured by a t test (see Table 9).

Hypothesis No. 12

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey in school, part I (see Table 9), for boys, girls, and total between the student-centered and teacher-centered classes as measured by a t test.
TABLE 9

Comparison of Pretest and Posttest Means on Attitudinal Survey in School, Part I, Both Within and Between the Student-centered and Teacher-centered Class

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-c Boys</td>
<td>10.17</td>
<td>1.99</td>
<td>10.85</td>
<td>1.95</td>
<td>.66</td>
<td>.81</td>
</tr>
<tr>
<td>T-c Boys</td>
<td>10.64</td>
<td>3.23</td>
<td>10.60</td>
<td>2.99</td>
<td>-.04</td>
<td>-.03</td>
</tr>
<tr>
<td>Difference between means</td>
<td>-.47</td>
<td>.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Girls</td>
<td>13.18</td>
<td>4.02</td>
<td>12.09</td>
<td>3.18</td>
<td>-1.09</td>
<td>-.71</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>11.83</td>
<td>5.15</td>
<td>11.92</td>
<td>3.20</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>Difference between means</td>
<td>1.35</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Total</td>
<td>11.61</td>
<td>3.42</td>
<td>11.43</td>
<td>2.63</td>
<td>-.18</td>
<td>-.20</td>
</tr>
<tr>
<td>T-c Total</td>
<td>11.26</td>
<td>4.29</td>
<td>11.32</td>
<td>3.11</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.35</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>.70</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aStudent-centered class.

bTeacher-centered class.

* p < .05.

** p < .01.
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 11 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective (as measured by this sub-scale) in producing a statistically significant change in attitude toward school; however, the results did indicate that the student-centered environment did tend to produce a more negative attitude toward school.

There was no significant difference between the means of the posttests on the attitudinal survey of school, part I, for boys, girls, or total; therefore, null hypothesis 12 was not rejected.

These findings indicated that neither a student-centered nor teacher centered environment produced any significant changes in attitude toward school when compared to each other.

The following were the questions which the students had to respond to (see Appendix B and C):

12. School 1 2 3 4 5
13. Listening to teachers
14. Doing the best I can in school
20. English class

Maximum possible score: 20
Hypothesis No. 13

The null hypothesis stated that there is no significant difference in the means on the attitudinal survey in school, part II, for boys, girls, and totals within each class as measured by a $t$ test (see Table 10).

Hypothesis No. 14

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey on school, part II (see Table 10), for boys, girls, and total between the student-centered and teacher-centered classes as measured by a $t$ test.
TABLE 10

Comparison of Pretest and Posttest Means on Attitudinal Survey in School, Part II, Both Within and Between the Student-centered and Teacher-centered Class

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean SD</th>
<th>Posttest Mean SD</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S-c&lt;sup&gt;a&lt;/sup&gt;</td>
<td>T-c&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>32.75 4.00</td>
<td>34.42 2.50</td>
<td>1.67</td>
<td>1.23</td>
</tr>
<tr>
<td>Girls</td>
<td>37.36 4.18</td>
<td>37.45 4.91</td>
<td>.90</td>
<td>.05</td>
</tr>
<tr>
<td>Total</td>
<td>34.96 4.64</td>
<td>35.87 4.06</td>
<td>.91</td>
<td>.71</td>
</tr>
</tbody>
</table>

*Student-centered class.

*Teacher-centered class.

* p < .05.

** p < .01.
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 13 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in producing a statistically significant change in attitude toward school; however, the results indicated that the student-centered environment did tend to produce a more positive attitude toward school in the boys, in contrast to the boys in the teacher-centered class whose attitude toward school worsened. A pattern slightly reverse of this was seen in the girls.

There was no significant difference between the means of the posttests in the attitudinal survey of school, part II, for boys, girls, or totals; therefore, null hypothesis 14 was not rejected.

These findings indicated that neither a student-centered nor teacher-centered environment produced a significant change in attitude toward school when compared to each other.

The following were the questions which the student had to respond to (see Appendix B and C):

1. I think teachers really care about us
5. I want to go to junior college or college
8. I often feel upset in school
11. My teachers make me feel I'm not good enough
12. Homework is important because it helps me learn
13. Kids should have more say about what goes on in class
16. School is O.K.
18. I liked all of my classes the past five months
19. I liked three or more of my classes the past five months
20. Teachers talk too much
22. I hate school
27. I'm proud of my school work
30. I often get discouraged in school
35. I look forward to coming to school
37. I think the grade is more important than what I learn
38. I'm doing the best work I can

Note: Answers are in the following form:
  yes sometimes no
  3   2   1

Items 8, 11, 20, 22, 30, and 38 were scored in reverse order

Maximum possible score: 48

Hypothesis No. 15

The null hypothesis stated that there is no significant difference in the means on the attitudinal survey on self, part I, for boys, girls, and totals within each class as measured by a \( t \) test (see Table 11).

Hypothesis No. 16

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey on self, part I (see Table 11), for boys, girls, and total between the student-centered and teacher-centered classes as measured by a \( t \) test.
### TABLE 11
Comparison of Pretest and Posttest Means on Attitudinal Survey in Self, Part I, Both Within and Between the Student-centered and Teacher-centered Class

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Difference between means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>S-c&lt;sup&gt;a&lt;/sup&gt; Boys</td>
<td>7.17 1.59</td>
<td>7.92 1.31</td>
<td>.75</td>
<td>1.27</td>
</tr>
<tr>
<td>T-c&lt;sup&gt;b&lt;/sup&gt; Boys</td>
<td>7.45 2.21</td>
<td>6.64 1.75</td>
<td>-.81</td>
<td>-.95</td>
</tr>
<tr>
<td>S-c Girls</td>
<td>7.82 .75</td>
<td>7.82 1.17</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>6.75 1.22</td>
<td>7.08 1.73</td>
<td>.33</td>
<td>.54</td>
</tr>
<tr>
<td>S-c Total</td>
<td>7.48 1.27</td>
<td>7.87 1.22</td>
<td>.39</td>
<td>1.08</td>
</tr>
<tr>
<td>T-c Total</td>
<td>7.09 1.76</td>
<td>6.87 1.71</td>
<td>-.22</td>
<td>-.42</td>
</tr>
</tbody>
</table>

### Differences between means
- .28
- 1.28
- .43
- 1.97
- 1.07
- .74
- 2.61
- 1.21
- .39
- 1.00
- .85
- 1.28

<sup>a</sup>Student-centered class.

<sup>b</sup>Teacher-centered class.

* P < .05.

** P < .01.
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 15 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in producing a statistically significant change in attitude toward self; however, the results indicated that the student-centered environment did tend to produce a more positive attitude toward self in the boys in contrast to the boys in the teacher-centered class whose attitude toward self worsened.

There was no significant difference between the means of the posttests on the attitudinal survey of self, part I, for boys, girls, or totals; therefore, null hypothesis 16 was not rejected.

These findings indicated that neither a student-centered nor teacher-centered environment produced any significant changes in attitude toward self (as measured by the sub-scale) when compared to each other.

The following were the questions which the student had to respond to (see Appendix B and C):

8. Myself 1 2 3 4 5
19. Accepting responsibility for what I do

Maximum possible score: 10
Hypothesis No. 17

The null hypothesis stated that there is no significant difference in the means on the attitudinal survey on self, part II, for boys, girls, and totals within each class as measured by a $t$ test (see Table 12).

Hypothesis No. 18

The null hypothesis stated that there is no significant difference between the means on the attitudinal survey on self, part II (see Table 12), for boys, girls, and total between the student-centered and teacher-centered classes as measured by a $t$ test.
TABLE 12
Comparison of Pretest and Posttest Means on Attitudinal Survey in Self, Part II, Both Within and Between the Student-centered and Teacher-centered Class

<table>
<thead>
<tr>
<th>Class and sex</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
<th>Difference Between Means</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-c Boys</td>
<td>30.25</td>
<td>3.36</td>
<td>29.83</td>
<td>3.13</td>
<td>-.42</td>
<td>-.32</td>
</tr>
<tr>
<td>T-c Boys</td>
<td>29.27</td>
<td>4.24</td>
<td>30.55</td>
<td>3.50</td>
<td>1.28</td>
<td>.77</td>
</tr>
<tr>
<td>Difference between means</td>
<td>.98</td>
<td>-.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>.46</td>
<td>-.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Girls</td>
<td>29.82</td>
<td>4.17</td>
<td>29.73</td>
<td>3.52</td>
<td>-.09</td>
<td>-.05</td>
</tr>
<tr>
<td>T-c Girls</td>
<td>31.08</td>
<td>5.85</td>
<td>30.00</td>
<td>4.81</td>
<td>-1.08</td>
<td>-.49</td>
</tr>
<tr>
<td>Difference between means</td>
<td>-.26</td>
<td>-.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-.60</td>
<td>-.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-c Total</td>
<td>30.04</td>
<td>3.69</td>
<td>29.78</td>
<td>3.25</td>
<td>-.26</td>
<td>-.25</td>
</tr>
<tr>
<td>T-c Total</td>
<td>30.22</td>
<td>5.12</td>
<td>30.26</td>
<td>4.15</td>
<td>.04</td>
<td>.03</td>
</tr>
<tr>
<td>Difference between means</td>
<td>-.18</td>
<td>-.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-.14</td>
<td>-.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aStudent-centered class.
bTeacher-centered class.
*p < .05.
**p < .01.
There was no significant difference between the means for boys, girls, and total within each class; therefore, null hypothesis No. 17 was not rejected.

These findings indicated that neither a student-centered classroom nor a teacher-centered one was more effective in producing a statistically significant change in attitude toward self; however, a slight worsening in attitude toward self was seen in the boys in the student-centered class, and the boys and girls in the teacher-centered class. These results were in contradiction to the part I (see Table 11) of the attitudinal survey.

There was no significant difference between the means of the posttests on the attitudinal survey of self, part II, for boys, girls, or totals; therefore, null hypothesis No. 18 was not rejected.

These findings indicated that neither a student-centered nor teacher-centered environment produced any significant changes in attitude toward self (as measured by the items) when compared to each other.

The following were the questions which the student had to respond to (see Appendix B and C):

2. Someone always has to tell me what to do
3. I don't like to be with other people
6. It's pretty rough to be me
9. I'm easy to like
10. I understand myself
15. Things are all mixed up in my life
17. I feel uncomfortable talking to people who
21. I'd change a lot of things about myself if I could
24. I'm a lot of fun to be with
26. I'm pretty happy
29. I get pretty nervous when I have to explain something
32. It's better to be a grown-up than a kid
34. I'm O.K.
40. It's hard for me to talk in front of the class

Note: Answers are in the following form:

<table>
<thead>
<tr>
<th>yes</th>
<th>sometimes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Items 2, 3, 6, 15, 17, 21, 29, 32, and 40 were marked in reverse order.

Maximum possible score: 42
CHAPTER V
Summary, Conclusions, and Recommendations

Summary
This study investigated the effects of a one-semester student-centered class and a one-semester teacher-centered class in the degree to which they significantly improved the reading skill and attitudes of boys and girls toward reading, school, and self, both within each class and between the two classes. The study attempted to determine if each method could produce changes, or if one method caused more improvement than the other.

Through this investigation, this study also attempted to examine the nature of the learning that can be accomplished during one-semester remedial reading classes to meet minimum standards as mandated by Administrative Code 1601.

The relevance of the study was based on the assumption that there exists much disagreement as to how education in general should occur in the public schools, along with the confusion as to how reading should be taught. This study also gained importance due to the emergence in the late 1960's and early 1970's of more "student-centered" classrooms. Data that could indicate the value of such an approach, particularly when compared to a more traditional one, could be useful for teachers and admin-
The subjects were forty-six tenth grade students identified as not meeting State and local Boards of Education minimum standards in reading. They were divided into two groups: one group being taught in a student-centered approach; the other group being taught in a teacher-centered approach.

The treatment between the classes differed essentially in the approach of the teacher to the class. This teacher of the student-centered class attempted to have the student determine what he would do daily throughout the semester and to evaluate his work and assign himself a grade. This teacher served to aid the student when asked. The teacher of the teacher-centered class made assignments, graded the students, and generally determined what occurred daily in the classroom.

The results were statistically analyzed with a t test of differences between means of the boys, girls, and total within each class on the Comprehensive Tests of Basic Skills: Reading Test. The CTBS has sub-scale scores in vocabulary, comprehension and a combined score of the two. The pretest was administered in October 1970, and the posttest was administered in June 1971.

The scores from this test were analyzed by an analysis of covariance on the posttest scores between the two classes with total IQ score and pretest score being used...
as covariates. This test yielded an $F$ ratio whose significance was determined by the degrees of freedom involved.

A two-part attitudinal scale was administered to both classes in February 1971, resulting in a pretest score, and again in June 1971 as posttest. This scale yielded results for boys, girls, and total in their attitudes toward reading, school, and self. These scores were analyzed by a $t$ test in two ways: a $t$ value was obtained for the difference between means within each class and another $t$ value was obtained for the difference between the means of the two classes (using a .05 level of significance for evaluating the $t$).

The literature reviewed focused on three areas: education, reading, and research in grouping procedures in reading. The literature related to education indicated the existence of major problems in today's public schools, stating that the school had a negative effect on the learning and emotional-psychological growth of the individual. This literature suggested that the schools be more experimental, more humanistic, more student-centered, more relevant, more flexible.

The literature related to reading indicated great confusion as to how reading should be taught, indicating that there did not seem to be any one way to best teach reading even though more research has been done in reading than
any other subject. This literature encouraged more experimentation to be done, while cautioning against prematurely accepting any one new approach.

The literature that presented statistical data comparing one method of grouping students to another to achieve improvement in reading and/or attitude indicated mixed results. Generally, however, the studies indicated that there was not much significant difference in reading achievement whether the grouping was individualized and pupil-planned or was group-structured and teacher-planned. However, these studies tended to indicate that the reading attitudes of students who were involved in individualized, pupil-planned activities seemed to be better compared to a group-structured, teacher-planned class. Nevertheless, a teacher or administrator would have difficulty in proving any method superior to another based upon these results.

The findings of this study may be summarized as follows:

1. Both the student-centered and teacher-centered classes showed statistically significant (.01) results in terms of achievement in Vocabulary and Comprehension for boys, girls, and total group as measured by a t test comparing the difference between means.

2. The girls in the teacher-centered classes improved
more in vocabulary achievement than the boys in those classes and the boys and girls in the student-centered classes. This result might be explained by the fact that the pretest scores for these girls were lower than the other groups.

3. The boys in the student-centered room improved more in comprehension achievement than the girls in that room and the boys and girls in the teacher-centered room.

4. There was no statistically significant difference as measured by an analysis of covariance between the improvement made in the student-centered room to the improvement made in the teacher-centered room in the areas of vocabulary and comprehension achievement.

5. There was more improvement in Total reading score (Vocabulary plus Comprehension) by the students in the teacher-centered class than by the students in the student-centered class.

6. There was a positive change in attitude toward reading on both parts I and II of the attitudinal survey, shown by the boys and girls in the student-centered classroom, although the change was not statistically significant.

7. There was a negative change in attitude toward reading in both parts I and II of the attitudinal survey shown by the boys and girls in the teacher-
centered classroom, although the change was not statistically significant.

8. The attitude of the boys in the student-centered classroom toward reading on both parts I and II of the attitudinal survey was significantly higher than the attitude of the boys in the teacher-centered classroom. This result might be explained by the worsening of the attitude of the boys in the teacher-centered classroom.

9. There was no significant difference in attitude toward school as measured by parts I and II of the attitudinal survey within either the student-centered or teacher-centered classroom.

10. There was no significant difference in attitude toward school as measured by both parts I and II of the attitudinal survey between the student-centered class to the teacher-centered classroom.

11. There was no significant difference in attitude toward self as measured by both parts I and II of the attitudinal survey within either the student-centered or teacher-centered classroom.

12. There was no significant difference in attitude toward self as measured by both parts I and II of the attitudinal survey between the student-centered class to the teacher-centered classroom.
Conclusion

The findings of this study indicated that significant improvement in reading did take place in boys and girls in both teaching approaches, with the boys improving more in their comprehension in the student-centered approach and the girls improving more in vocabulary in the teacher-centered approach.

The findings further indicated there was no significant difference between the achievement scores associated with different teaching approaches, although the teacher-centered approach tended to produce more improvement.

This study also indicated that the attitude of boys toward reading improved significantly when compared to the boys in the teacher-centered class, while there was no significant change in attitude toward school or self within or between the two groups.

Some limitations on these results would be: (1) the Comprehensive Tests of Basic Skills comprehension subtest contained many questions that required much knowledge of vocabulary; (2) the extensive reading done in the student-centered class does not tend to be indicated on standardized reading tests, particularly when compared to an intensive work as used in teacher-centered classrooms; (3) attitudinal surveys generally have low validity and reliability, with the survey used in this study being divided into the categories of reading, school, and self
on a basis that was arbitrary and which contained items that could have been placed in a different category; (4) there was a lack of matched-pairs on the attitudinal survey so only statistics for a whole group could be produced. This situation diminished the possibility of obtaining statistically significant differences; (5) the pretest on the CTBS was given in October, four months before the treatment began; (6) the results could have resulted from many "uncontrollable" variables such as teacher personality, sex, hour of the day, room appearance, student personality, etc.

The study indicated that one-semester remedial reading class can significantly improve the reading of students. Whether this improvement was sufficient to satisfy the legislators who created the requirement for this class was impossible to determine since no degree of improvement was indicated in the education codes.

The study further indicated that the extra practice in vocabulary in the teacher-centered classroom did not seem to cause significant improvement in vocabulary, and extensive reading in the student-centered class did not significantly improve comprehension, so that one treatment was no more effective in improving reading achievement than the other.

The study indicated that the attitude of boys toward reading in the student-centered classroom improved while
the attitude of boys in the teacher-centered classroom worsened. Thus, it seemed that 10th grade boys can deal with and need a more informal atmosphere than 10th grade girls, who seemed to be more comfortable in the teacher-centered classroom.

Recommendations

In view of the findings of this study, the following areas are recommended for further research:

1. Replication of this study with the pretest in reading being given at the beginning of the semester.

2. Replication of this study with some of the uncontrolled variables controlled, such as sex of the teacher, classroom being available to the teacher for the whole day, class being offered during the same period of the day.

3. Replication with students being informed of the different teaching approaches and choosing which class they wished to attend.

4. Replication with different age levels.

5. Replication with different intelligence levels.

6. Replication with different socio-economic levels.

7. Replication with different testing instruments.

8. Replication with larger sample.

9. Replication with a far more valid, sensitive, and precise measuring instrument of reading skills; an extended instrument for assessing attitudes; and a
data collection process allowing for identification of individual cases (in order to capitalize on some of the available statistical techniques).

The most significant recommendation indicated by this study would be that teachers and administrators should consider the data when enrolling 10th grade students in remedial classes, and attempt to place the boys in a more student-centered classroom and the girls in a teacher-centered one. From this procedure, further testing and observations should be made to determine its value.

Finally, when schools, educators, and researchers attempt to study the teacher-learner classroom situation, they should distinguish between minimal academic accomplishments and the broader gains that might be made in attitudes.
REFERENCES


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## APPENDIX A

### Table A

Analysis of Covariance Comparing the Posttests of the CTBS Between the Student-centered Class and Teacher-centered Class Using IQ Means and Pretest Means as Covariates

<table>
<thead>
<tr>
<th>Sex, Test, Group</th>
<th>N</th>
<th>Mean</th>
<th>Pre Test Mean</th>
<th>Adj. Mean</th>
<th>df</th>
<th>F</th>
<th>ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys, Vocab. S-c</td>
<td>11</td>
<td>95.73</td>
<td>19.27</td>
<td>22.73</td>
<td>22.56</td>
<td>18</td>
<td>0.806</td>
</tr>
<tr>
<td>Boys, Vocab. T-c</td>
<td>11</td>
<td>96.00</td>
<td>19.18</td>
<td>23.91</td>
<td>24.08</td>
<td>18</td>
<td>0.386</td>
</tr>
<tr>
<td>Boys, Comp. S-c</td>
<td>11</td>
<td>95.73</td>
<td>19.36</td>
<td>23.09</td>
<td>22.93</td>
<td>18</td>
<td>0.016</td>
</tr>
<tr>
<td>Boys, Comp. T-c</td>
<td>11</td>
<td>96.00</td>
<td>18.45</td>
<td>21.54</td>
<td>21.79</td>
<td>18</td>
<td>0.008</td>
</tr>
<tr>
<td>Boys, Total S-c</td>
<td>11</td>
<td>95.73</td>
<td>38.64</td>
<td>45.82</td>
<td>45.50</td>
<td>18</td>
<td>0.420</td>
</tr>
<tr>
<td>Boys, Total T-c</td>
<td>11</td>
<td>96.00</td>
<td>36.64</td>
<td>45.55</td>
<td>45.86</td>
<td>18</td>
<td>0.344</td>
</tr>
<tr>
<td>Girls, Vocab. S-c</td>
<td>10</td>
<td>93.30</td>
<td>18.20</td>
<td>20.00</td>
<td>19.66</td>
<td>16</td>
<td>3.208</td>
</tr>
<tr>
<td>Girls, Vocab. T-c</td>
<td>10</td>
<td>97.90</td>
<td>18.10</td>
<td>21.90</td>
<td>22.24</td>
<td>16</td>
<td>0.829</td>
</tr>
<tr>
<td>Girls, Comp. S-c</td>
<td>10</td>
<td>93.30</td>
<td>21.40</td>
<td>24.90</td>
<td>25.03</td>
<td>16</td>
<td>0.062</td>
</tr>
<tr>
<td>Girls, Comp. T-c</td>
<td>10</td>
<td>97.90</td>
<td>19.20</td>
<td>24.90</td>
<td>24.77</td>
<td>16</td>
<td>0.008</td>
</tr>
<tr>
<td>Girls, Total S-c</td>
<td>10</td>
<td>93.30</td>
<td>39.60</td>
<td>44.90</td>
<td>44.74</td>
<td>16</td>
<td>0.420</td>
</tr>
<tr>
<td>Girls, Total T-c</td>
<td>10</td>
<td>97.90</td>
<td>35.30</td>
<td>46.80</td>
<td>46.96</td>
<td>16</td>
<td>0.344</td>
</tr>
<tr>
<td>Total, Vocab. S-c</td>
<td>21</td>
<td>94.57</td>
<td>18.76</td>
<td>21.43</td>
<td>21.26</td>
<td>38</td>
<td>2.829</td>
</tr>
<tr>
<td>Total, Vocab. T-c</td>
<td>21</td>
<td>96.90</td>
<td>17.19</td>
<td>22.95</td>
<td>23.12</td>
<td>38</td>
<td>0.054</td>
</tr>
<tr>
<td>Total, Comp. S-c</td>
<td>21</td>
<td>94.57</td>
<td>20.33</td>
<td>23.95</td>
<td>23.76</td>
<td>38</td>
<td>0.344</td>
</tr>
<tr>
<td>Total, Comp. T-c</td>
<td>21</td>
<td>96.90</td>
<td>18.61</td>
<td>23.19</td>
<td>23.39</td>
<td>38</td>
<td>0.053</td>
</tr>
<tr>
<td>Total, Total S-c</td>
<td>21</td>
<td>94.57</td>
<td>39.10</td>
<td>45.38</td>
<td>45.15</td>
<td>38</td>
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<td>96.90</td>
<td>36.00</td>
<td>46.14</td>
<td>46.37</td>
<td>38</td>
<td>0.053</td>
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</table>

Note: None of the above F ratios is significant at the .05 level.

a Student-centered class.

b Teacher-centered class.
APPENDIX B

This questionnaire is to be unsigned so that you can answer freely. It is important that your answers show your first honest impression.

Your age__________________ Your sex__________________ This period

Since all people are different, they like different things and they like them in different amounts. I would like to find out how much you like certain things.

The things you don't like at all you circle 1; the things you like a little you mark 2; the things you are undecided about, or have no strong like or dislike you mark 3; the things you like much you mark 4; and the things you like very much you mark 5. Here is the way again:

1 not at all 2 a little 3 undecided 4 much 5 very much

Example: Rock music----------------------------------1 2 3 4 5

1. Writing about things----------------------------------1 2 3 4 5
2. Dressing up------------------------------------------1 2 3 4 5
3. Talking about things----------------------------------1 2 3 4 5
4. Going to the beach-----------------------------------1 2 3 4 5
5. Reading magazines-------------------------------------1 2 3 4 5
6. Television-------------------------------------------1 2 3 4 5
7. Playing games or sports at school---------------------1 2 3 4 5
8. Myself-----------------------------------------------1 2 3 4 5
9. Wasting time------------------------------------------1 2 3 4 5
10. Other kids------------------------------------------1 2 3 4 5
11. Reading books----------------------------------------1 2 3 4 5
12. School---------------------------------------------1 2 3 4 5
13. Listening to teachers-------------------------------1 2 3 4 5
14. Doing the best I can in school-----------------------1 2 3 4 5
15. Adults---------------------------------------------1 2 3 4 5
16. Reading newspapers----------------------------------1 2 3 4 5
17. Working on improving my reading--------------------1 2 3 4 5
18. Making fun of people who make mistakes-------------1 2 3 4 5
19. Accepting responsibility for what I do-------------1 2 3 4 5
20. English class---------------------------------------1 2 3 4 5
On this page and the next, please mark each statement in the following way:

If the statement describes the way you are or the way you usually feel, circle the word "yes."

If the statement describes the way you are sometimes or the way you feel sometimes, circle the word "sometimes."

If the statement does not describe the way you are or the way you usually feel, circle the word "no."

There are no right or wrong answers.

Example: I'm full of energy-------------------yes sometimes no

1. I think teachers really care about us--yes sometimes no
2. Someone always has to tell me what
to do-----------------------------yes sometimes no
3. I don't like to be with other people--yes sometimes no
4. I hate books------------------------yes sometimes no
5. I want to go to junior college or
college-----------------------------yes sometimes no
6. It's pretty tough to be me---------------yes sometimes no
7. I read a newspaper almost every day--yes sometimes no
8. I often feel upset in school-------------yes sometimes no
9. I'm easy to like----------------------yes sometimes no
10. I understand myself------------------yes sometimes no
11. My teachers make me feel I'm not
good enough------------------------yes sometimes no
12. Homework is important because it
helps me learn---------------------yes sometimes no
13. Kids should have more say about what
goes on in class---------------------yes sometimes no
14. I would rather watch T.V. than read--yes sometimes no
15. Things are all mixed up in my life--yes sometimes no
16. School is O.K.----------------------yes sometimes no
17. I feel uncomfortable talking to people
who are not my friends------------------yes sometimes no
18. I liked all of my classes the past
five months------------------------yes sometimes no
19. I liked three or more of my classes
the past five months------------------yes sometimes no
20. Teachers talk too much----------------yes sometimes no
continued--

21. I'd change a lot of things about myself if I could--------------------------yes sometimes no
22. I hate school-------------------------------------yes sometimes no
23. I like to write things down when I think about them------------------------yes sometimes no
24. I'm a lot of fun to be with----------------------yes sometimes no
25. I often read when I have some free time------------------------------------------------------yes sometimes no
26. I'm pretty happy---------------------------------------------------yes sometimes no
27. I'm proud of my school work----------------------------yes sometimes no
28. I read magazines a lot------------------------yes sometimes no
29. I get pretty nervous when I have to explain something------------------------yes sometimes no
30. I often get discouraged in school------yes sometimes no
31. Books are things I like to have aroundyes sometimes no
32. It's better to be a grown-up then a kid-----------------------------------yes sometimes no
33. Writing is something (sic) I can do without----------------------------------------yes sometimes no
34. I'm O.K.------------------------------------------yes sometimes no
35. I look forward to coming to school------yes sometimes no
36. I hardly ever finish a book------------------------yes sometimes no
37. I think the grade is more important than what I learn------------------------yes sometimes no
38. I'm doing the best work I can------------------------yes sometimes no
39. I only read when I'm forced to------------------------yes sometimes no
40. It's hard for me to talk in front of the class----------------------------------------yes sometimes no
APPENDIX C

Part I

School

12. School
13. Listening to teachers
14. Doing the best I can in school
20. English class

Reading

5. Reading magazines
11. Reading books
16. Reading newspapers
17. Working on improving my reading

Self

8. Myself
19. Accepting responsibility for what I do

Note: Answers in the following form:

1   2   3   4   5
not at all a little undecided much very much

Maximum possible scores: School-20, Reading-20, Self-10.

Part II

School

1. I think teachers really care about us
8. I often feel upset in school
11. My teachers make me feel I'm not good enough
12. Homework is important because it helps me learn
13. Kids should have more say about what goes on in class
16. School is O.K.
18. I liked all of my classes the past five months
19. I liked three or more of my classes the past five months.
20. Teachers talk too much
22. I hate school
27. I'm proud of my school work

Reading

4. I hate books
7. I read a newspaper almost every day
14. I would rather watch T.V. than read  
25. I often read when I have some free time  
28. I read magazines a lot  
31. Books are things I like to have around  
36. I hardly ever finish a book  
39. I only read when I'm forced to

Self

2. Someone always has to tell me what to do  
3. I don't like to be with other people  
6. It's pretty tough to be me  
9. I'm easy to like  
10. I understand myself  
15. Things are all mixed up in my life  
17. I feel uncomfortable talking to people who are not my friends  
21. I'd change a lot of things about myself if I could  
24. I'm a lot of fun to be with  
26. I'm pretty happy  
29. I get pretty nervous when I have to explain something  
32. It's better to be a grown-up than a kid  
34. I'm O.K.  
40. It's hard for me to talk in front of the class

Note: Answers are in the following form:

Yes  Sometimes  No
3  2  1

Items 2, 3, 4, 6, 8, 11, 14, 15, 17, 20, 21, 22, 29, 30, 32, 36, 38, 39, and 40 were marked in reverse order.

Maximum possible scores: School-48, Reading-24, Self-42
APPENDIX D

TENTATIVE SEMESTER PLAN

HERE'S WHAT I WANT TO DO THIS SEMESTER

STEVE, HERE'S HOW YOU MIGHT BE ABLE TO HELP
# APPENDIX E
## WEEKLY PLAN

<table>
<thead>
<tr>
<th>WHAT I PLAN TO DO</th>
<th>WHAT I DID</th>
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<tbody>
<tr>
<td></td>
<td>MONDAY</td>
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<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>FRIDAY</td>
</tr>
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</table>

### EVALUATION

How did things go this week?

What do I want to do next week?

What can Steve do to improve things?
APPENDIX F
SHEET AFTER 1/4. EVALUATION AND SEMESTER PLAN

NAME:

(1) BY WHAT STANDARDS DO YOU FEEL YOU SHOULD EVALUATE YOURSELF IN THIS CLASS?

(2) DO YOU FEEL THERE SHOULD BE ANY CHANGE IN YOUR "TENTATIVE SEMESTER PLAN" SHEET?

(3) IF SO, WHAT?
APPENDIX G

SELF-EVALUATION

USE THE BACK OF THIS SHEET, OR OTHER PAPER, IF NECESSARY

NAME:

(1) WHAT DO YOU FEEL IS IMPORTANT IN DECIDING HOW YOU SHOULD BE EVALUATED?

(2) WHAT GRADE WOULD YOU GIVE YOURSELF?

<table>
<thead>
<tr>
<th>GRADE</th>
<th>WORK</th>
<th>HABITS</th>
<th>COOP</th>
</tr>
</thead>
</table>

(3) WHY WOULD YOU GIVE YOURSELF THIS GRADE?

(4) I DO NOT WISH TO EVALUATE MYSELF. YOU GIVE ME WHAT YOU THINK I DESERVE.