To the Graduate Council:

I am submitting herewith a dissertation written by Charlotte Stanson Garth entitled "The Impact of a Developmental Reading Course on Student Retention and Achievement in a Two-Year Technical Community College." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Curriculum and Instruction.

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The Graduate School

THE IMPACT OF A DEVELOPMENTAL READING COURSE ON STUDENT RETENTION AND ACHIEVEMENT OF FRESHMAN STUDENTS IN A TWO-YEAR TECHNICAL COMMUNITY COLLEGE

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Charlotte Stanson Garth

December 1983

DEDICATION

To my family: my husband, Arlyce James Garth;
our daughters, Chloē LāJune and Arlycia Jāyn;
our grandson, LaNorris and to the
Glory of God

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ABSTRACT

The purpose of this study was to determine the impact of a developmental reading course on student retention and achievement in a two-year technical community college. In this investigation, the Stanford Diagnostic and the Nelson-Denny Reading Tests were compared to determine the students' strengths and weaknesses in reading, and correlations were computed to examine the intragroup relationships within the tests.

A comparative-descriptive method was used to compare pretest and posttest mean scores for the evaluation of the students' performance after they completed the developmental reading course. Their grade point averages, total hours completed and retention according to race and sex were compared after three consecutive quarters with a similar group of students who did not take the course. Eighty-four full-time entering freshman students who were low in reading ability comprised the subjects for this study. These subjects were divided into two groups: a comparative group and an experimental group. This study was conducted at Chattanooga State Technical Community College in Chattanooga, Tennessee during the 1981-82 academic year.

T-test comparisons were used to compare the impact of the independent variables and to evaluate reading achievement. The Pearson Product Moment Correlation Coefficients were used to determine the intragroup relationships within the test measures.

Results reported showed no significant differences in student retention and achievement between the experimental and the comparative groups after three consecutive quarters. The findings suggest that a developmental reading course is no more or no less effective in improving achievement or in reducing the rate of attrition among entering freshman students in a community college who are low in reading ability than are the regular college courses.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Problem	2
	Purpose	2
	Rationale	4
	Description of the Subjects of the Study	6
	Historical Background: Information about the College	8
	Assumptions	9
	Delimitations	9
	The Developmental Reading Program	10
	Description of the Instruments	12
	Definition of Terms	14
	Procedures	17
	Procedures in Collecting Data	19
	Procedures in Analyzing the Data	20
	Organization of the Study	21
II.	REVIEW OF RELATED LITERATURE	22
	Controversy About the "Open Door" Admission Policy of the Community/Junior College	22
	The Effectiveness of Reading Programs	33
	Pre-College Reading Programs	36
	Comparisons of Reading Methods	39
	Adult Programs	45
	Other Communication Skills Programs	49
	Related Studies	50
	Summary of the Related Literature	58
III.	PROCEDURES OF THE STUDY	65
	Selection of Students	65
	Description of Instruments	66
	Description of Instruction	67
	Collection of Data	70
	Analysis and Interpretation of Data	71
	Summary	73

CHAPTER PAGE

IV. FINDINGS OF THE STUDY 74
Section I 77
Section II 89
Section III 95
Section IV 114
Summary 147

V. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS . . 154
Summary 154
Findings 155
Test Results 156
Conclusions 160
Recommendations 161
Implications for Further Study 162

LIST OF REFERENCES 163

APPENDIXES 172

APPENDIX A. DESCRIPTION OF INSTRUMENTS 173
APPENDIX B. STATISTICAL TABLES 185
APPENDIX C. T-TEST COMPARISONS BETWEEN THE PRETEST AND POSTTEST STANFORD DIAGNOSTIC AND THE NELSON-DENNY READING TESTS ACCORDING TO RACE AND SEX 192
APPENDIX D. T-TEST COMPARISONS BETWEEN GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION ACCORDING TO RACE AND SEX 199
APPENDIX E. CORRELATIONS OF THE STANDARD DIAGNOSTIC AND THE NELSON-DENNY READING TESTS 206

VITA 215

LIST OF TABLES

TABLE PAGE

I. T-test comparisons of pretest and posttest mean scores for the Stanford Diagnostic Reading Test within the experimental group of freshman students who completed the developmental reading course during the 1981-82 fall quarter. 186

II. T-test comparisons of pretest and posttest mean scores for the Stanford Diagnostic Reading Test scores within the experimental freshman students according to race during the 1981-82 fall quarter 187

III. T-test comparisons of pretest and posttest mean scores for the Stanford Diagnostic Reading Test results within the experimental group of freshman students according to sex during the 1981-82 fall quarter 188

IV. T-test comparisons of pretest and posttest mean scores for the Nelson-Denny Reading Test results within the experimental group of freshman students during the 1981-82 fall quarter. 189

V. T-test comparisons of pretest and posttest mean scores on the Nelson-Denny Reading Test results within the experimental group of students by race during the 1981-82 fall quarter. 190

VI. T-test comparisons of pretest and posttest mean scores on the Nelson-Denny Reading Test results within the experimental group of freshman students by sex during the 1981-82 fall quarter. 191

VII. T-test comparisons within the experimental group of freshman students on the Stanford Diagnostic Reading Test according to race during the 1981-82 fall quarter . . 193

VIII. T-test comparisons for the pretest and posttest Stanford Diagnostic Reading Test results between the experimental group of freshman students according to sex at the end of the 1981-82 fall quarter 194

IX. T-test comparisons for the pretest and posttest Nelson-Denny Reading Test results between the experimental group of freshman students according to race at the end of the 1981-82 fall quarter 195

TABLE PAGE

X. T-test comparisons of the pretest and posttest Nelson-Denny Reading Test scores between the experimental group of freshman students according to sex at the end of the 1981-82 fall quarter. 196

XI. T-test comparisons of grade point averages, quarter hours, and retention for the experimental group of freshman students who completed the developmental reading course during the 1981-82 academic year 197

XII. T-test comparisons of grade point averages, quarter hours, and retention for the experimental group of freshman students who completed the developmental reading course according to race during the 1981-82 academic year . 198

XIII. T-test comparisons of grade point averages, quarter hours, and retention for the experimental group of freshman students according to sex during 1981-82 academic year 200

XIV. T-test comparisons of grade point averages, quarter hours, and retention for the comparative group of freshman students according to race during the 1981-82 academic year 201

XV. T-test comparisons of grade point averages, quarter hours, and retention for the white students who comprised the experimental and comparative groups during the 1981-82 academic year. 202

XVI. T-test comparisons of grade point averages, quarter hours, and retention for the black students who comprised the experimental and comparative groups during the 1981-82 academic year. 203

XVII. T-test comparisons of grade point averages, quarter hours, and retention for the female students who comprised the experimental and comparative groups during the 1981-82 academic year. 204

XVIII. T-test comparisons of grade point averages, quarter hours, and retention for the male students who comprised the experimental and comparative groups during the 1981-82 academic year. 205

XIX. Correlation of pretest and posttest Stanford Diagnostic Reading Test scores within the experimental group of freshman students who enrolled in the developmental reading course during the 1981-82 fall quarter . . . 207

TABLE PAGE

XX. Correlation of pretest and posttest Stanford Diagnostic Reading Test results of the experimental group of students during the 1981-82 fall quarter. 208

XXI. Correlation of pretest Stanford Diagnostic Reading Test scores with the pretest Nelson-Denny Reading Test scores within the experimental group of freshman students according to race during the 1981-82 fall quarter . . 209

XXII. Correlation of posttest Stanford Diagnostic Reading Test scores with the posttest Nelson-Denny Reading Test scores within the experimental group of freshman students according to race during the 1981-82 fall quarter 210

XXIII. Correlation of pretest and posttest Nelson-Denny Reading Test scores within the experimental group of freshman students according to race during the 1981-82 fall quarter 211

XXIV. Correlation of pretest and posttest Nelson-Denny Reading Test scores within the experimental group of freshman students according to sex during the 1981-82 fall quarter 212

XXV. Correlation of pretest Stanford Diagnostic Reading Test with the pretest Nelson-Denny Reading Test results of experimental group of freshman students according to sex during the 1981-82 fall quarter 213

XXVI. Correlation of posttest Stanford Diagnostic Reading Test results with the posttest Nelson-Denny Reading Test results for the experimental group of freshman students according to sex during the 1981-82 fall quarter. . . 214

CHAPTER I

INTRODUCTION

In the past thirty years, the enrollment in the community/junior college has rapidly increased. Its growth has been attributed to the "open door" admission policy. This policy permits admission of high school graduates and other persons eighteen and over who are interested in obtaining an Associate of Arts Degree or who wish to pursue technical or vocational programs in higher education. Consequently, higher education is open to everyone who desires it, regardless of previous experiences, academic potential, level of proficiencies, or academic skills and abilities. Even though the belief that undergirds the philosophy is democratic, the results of "open door" admission policy have caused community/junior colleges to accept a larger proportion of full-time students who have low reading ability and often are deficient in other important tools for learning.

One response of the community/junior colleges to the special problems of low-achievers has been in the form of developmental courses. These courses have as their objectives the improvement of basic reading and study skills, and they are usually labeled as remedial English or developmental reading.

Goodwin states that over half the community/junior colleges advised those students whom they identified as low achievers to

take corrective courses in reading.[1] Bossone reported that in California in a typical community/junior college, 80 percent of the entering freshmen were enrolled in remedial English, but only 20 percent eventually went on into regular classes.[2] The majority of these students withdrew from college.

I. PROBLEM

Obviously, enrollment in developmental courses has been perceived by many educators to be an appropriate response to Achievement and the attrition problem among high-risk students entering community colleges across the country. However, it might be asked, "Does the developmental course approach have a real effect on either the students or their retention in college programs?"

II. PURPOSE

The purpose of this study was to determine the impact of a developmental reading course on student retention and achievement in

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[1]D. D. Goodwin, "Measurement and Evaluation of Junior College Reading Programs," ERIC-Junior College Reviews (Vol. 6, October, 1971), p. 3.

[2]Richard M. Bossone, "Remedial English Instruction in California Public Junior Colleges: An Evaluation of Current Practices," (Sacramento, California: California Department of Education, Vol. 6, October 1971), p. 3.

a two-year technical community college. Additionally, this study sought to compare and correlate the Stanford Diagnostic and the Nelson-Denny Reading test results for the developmental students in order to determine their strengths and weaknesses in reading and to look at the relationship within the test measures. Furthermore race and sex were studied to see if these factors affected the differences in student performance in reading, retention and achievement. Specific questions to be answered included:

1. Did the developmental reading course strength the students' reading skills?

2. Did those students who completed the developmental reading course make significant gains on the posttest of the Nelson-Denny Reading Test, have higher grade point averages, complete more hours, and remain in college longer in comparison to similar students who did not take the course?

3. What were the intragroup relationships within the Stanford Diagnostic and the Nelson-Denny Reading Tests?

4. How did the variables race and sex affect the differences between the two groups?

Even though a vast array of literature exists on the "open door" admission policy and college reading programs, limited research has looked at descriptions and comparisons of pretest and posttest mean scores, grade point averages, total hours completed, correlations of tests, and retention of entering freshman students who are deficient in reading and study skills after three consecutive quarters. The rationale for this study focuses on the need for improvement in

teaching reading and up to date knowledge, on the part of teachers, about diagnostic instruments.

III. RATIONALE

Today, more than ever before, teachers and students are engaged in research endeavors, computer programming and scientific pursuits. However, in order for these projects to continue with any degree of efficiency in the future, more entering college freshman students must display competency in reading with understanding. In order to do this, they must be taught so that they will master the fundamental skills of decoding, vocabulary development, and comprehension. These skills constitute the major components of the developmental reading process. A process that many freshman students have not mastered during their earlier school years. These students consist of a subset of the freshman students who seek admission to college.

Since the "open door" admission policy permits the admission of students who are deficient in reading and study skills, teachers must be knowledgeable about various diagnostic instruments that will help them diagnose the students' strengths and weaknesses in order to plan a program according to their needs. These programs should be designed so that the students will master the reading skills, persist in college and achieve their career goals.

Furthermore, teachers should exhibit a high level of competency in the teaching of reading. Reading must be taught because students do not have the innate ability to learn to read. Horrock and

Sackett wrote that reading must be taught; it is not caught. Enjoyment of reading is dependent on competency in reading. Competence in reading is dependent on the application of learned skills and abilities. A teacher must have a broad understanding of the interrelation of all the reading skills in order to teach any specific skill effectively.[3]

Horrock and Sackett emphasized further that effective reading instructors have mastered the teaching of basic reading skills; therefore, with competence and enthusiasm, they willingly teach work attack, vocabulary development, comprehension, silent reading, oral reading, dictionary and specialized skills for the content subjects.[4] As a result of their instruction, students learn to read critically and creatively.

Therefore, this study explored the impact of a developmental reading course on student retention and achievement in a two-year technical community college. In this investigation the relationship within and between the Stanford Diagnostic and the Nelson-Denny Reading Tests was studied to determine the students strengths and weaknesses in reading and to compare the pretest and posttest mean scores within the two test measures in order to determine if the students who enrolled in the course improved their reading and study

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[3]Edna M. Horrock and Grace L. Sackett, "Developing Basic Skills in Reading," Teacher's Encyclopedia (Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1978), p. 501.

[4]Horrock and Sackett, op. cit., p. 502.

skills. Their grade point averages, total hours completed, and retention according to race and sex were compared with a similar group of students, who were full-time day students, who did not enroll in the course.

These students at the time of admission to Chattanooga State Technical Community College had a composite score below sixteen on the Americal College Test. They failed the Chattanooga Placement Test, and they scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test. Thus, they were advised, but not required, to enroll in the Developmental Studies Department in the developmental reading course. They received counseling, and as a result of counseling, one group of full-time day students decided to enroll in the course. The second group was comprised of full-time day students who elected not to enroll in the course.

IV. DESCRIPTION OF THE SUBJECTS OF THE STUDY

This research was conducted at Chattanooga State Technical Community College, Chattanooga, Tennessee, during the 1981-82 school year. The subjects involved in this study were eighty-four freshman students who were low in reading ability. There were forty-three females and forty-one males. They were selected on the basis of the number of full-time day students who were low in reading and study skills, and who enrolled in at least twelve quarter hours during the fall, winter, and spring quarters. The other students in this category were part-time day students who took only three to six credit hours. The sample was divided into two groups: a comparative group and an

experimental group. The experimental group enrolled in Sections I, III, and IV of developmental reading, mathematics, and psychology, while the comparative group elected to enroll in courses in their major field of concentration and/or one course in developmental mathematics and psychology. These students were characterized as individuals who were low in reading and study skills. They ranged from recent high school graduates, high school dropouts, to other students who have been out of school for one to twenty years. They, for the most part, had experienced little, if any, success in previous educational endeavors. Moore stated that they are non-traditional or high-risk students, who are subjected to deliberate professional neglect.[5] No books are written about them and there is virtually no research; he further stated that:

> These students are those whose erratic high school records, economic plight, unimpressive standardized test scores, race, cultural, and class distinctions succeed in placing them at a disadvantage in contention with the vast majority of college students. In other words, the odds are against them.[6]

Nevertheless, they were admitted to Chattanooga State Technical Community College through the "open door" admission policy. By opening its doors, the college accepted the responsibility for providing a program for them.[7]

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[5]W. Moore, Jr., Against the Odds (San Francisco, California: Jossey-Bass, 1970), pp. 2-4.

[6]Moore, op. cit., p. 6.

[7]Moore, op. cit., p. 7.

V. HISTORICAL BACKGROUND: INFORMATION ABOUT THE COLLEGE

Chattanooga State Technical Community College is accredited by the Southern Association of Colleges and Schools. It originally operated as Chattanooga State Technical Institute. The institute was a two-year, coeducational, college-level institution established by an act of the Legislature of the State of Tennessee in 1963. Regular programs of study were first offered in September 1965.[8]

During its first two years of existence, the institute was located at Fourth and Chestnut Streets in downtown Chattanooga. In September 1967, the institute moved into a multi-million dollar plant at 4501 Amnicola Highway near the Chickamauga Dam.

In 1973 the Legislature of the State of Tennessee changed the name of the institute to Chattanooga State Technical Community College and transferred the operation from the Tennessee Board of Education to the Tennessee State Board of Regents.[9]

This institution is both a technical and a community college. It also operates under the "open door" admission policy. This means that any adult who is interested in attending college is admitted.

As a result, students who did not make the required score of sixteen or above on the American College Test, who failed the

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[8]Chattanooga State Technical Community College/1981-82 (Chattanooga: The Chattanooga State Technical Community College, 1981-82), p. 11.

[9]Chattanooga State Technical Community College, op. cit., p. 12.

Chattanooga Placement Test, and who scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test were admitted to Chattanooga State Technical Community College in the Developmental Studies Department. In this department, students may be enrolled in other divisions of the college. They may also enroll for a second quarter of mathematics, English or reading. These courses do not count toward college graduation requirements or for transfer purposes to four-year colleges and universities, although they are included when computing the students' grade point averages.

VI. ASSUMPTIONS

As the historical background and information about the college was reviewed, it was also necessary to consider the assumptions which would underlie the research. Certain concepts were accepted from the beginning. These consist of:

1. The students who enrolled in the developmental reading course were a representative group of a subset of community college freshman students whose reading deficiencies are similar to a subtest of freshman students who continue to enroll at Chattanooga State Technical Community College and other two-year institutions.

2. The students did their best to improve their reading skills during the time they were enrolled in the course.

VII. DELIMITATIONS

This study was delimited to eighty-four subjects comprised of two groups of freshman students who enrolled in Chattanooga State

Technical Community College during the 1981-82 fall, winter, and spring quarters. One hundred ninety-four freshman students were advised, but not required, to enroll in Sections I, III, and IV, of the developmental reading course. From the 194 students, ninety-three students enrolled in the developmental reading course, but only fifty-two students met the criteria for the experimental group. One hundred one did not enroll in the developmental reading course; however, only thirty-two students from this number met the criteria for the comparative group. Therefore, these eighty-four subjects do not represent the total enrollment of the freshman class, but the fifty-two freshman students who were enrolled as full-time day students, and who enrolled in Sections I, III, and IV of the developmental reading course during the 1981-82 fall quarter, and the thirty-two freshman students who did not enroll in the course. Both groups of students had a composite score on the American College Test below sixteen; they failed the Chattanooga Placement Test, and they scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test at the time of admission to the college.

VIII. THE DEVELOPMENTAL READING PROGRAM

The developmental reading program focused on specific reading skills. These skills were identified from the results of the Stanford Diagnostic Reading Test. This test was administered at the beginning and at the end of the reading course. The pretest was given to determine the strengths and weaknesses of the students. Test scores

indicated the particular reading problems the students had, and programs were prescribed according to the students' reading levels. As a result, instruction included reading comprehension, vocabulary development, test taking skills, speed and flexibility, and the application of reading skills to content subjects. The materials used in the program included reading kits, audiotapes, graded reading lessons, pacing devices, study guides, videotapes, and two textbooks entitled SUCCESSFUL READING: KEY TO OUR DYNAMIC SOCIETY, by Maxwell H. Norman and Enid S. Kass Norman and HOW TO STUDY, by Thomas Staton.

At the end of the course at Chattanooga State Technical Community College, the posttest of the Stanford Diagnostic Reading Test was administered to compare the changes in the subskills in vocabulary development and comprehension. The program was designed, normally, for students to complete in one quarter. However, completion of the course for some students took longer. This depended on their degree of reading deficiencies and the regularity of class attendance.

The developmental reading program was a teacher-guided individualized reading course. Students worked at their own pace in completing the exercises on their prescription sheet. However, some directed teaching was necessary in order for the students to understand their assignments. Therefore, Tuesday and Thursday were designated for teaching reading study skills; phonetic and structural analysis; locating information; and reading newspapers, tables, charts, and graphs.

Classes met five days a week for fifty minutes during the fall quarter. This was the longest quarter, and it consisted of twelve weeks.

The achievement rate and withdrawal rate of these students was traced to the end of the 1981-82 academic year. This parallel technique was used to determine whether or not the students who volunteered and enrolled in the developmental reading course improved on the subskills of the posttest of the Stanford Diagnostic Reading Test, made significantly higher gains on the posttest of the Nelson-Denny Reading Test, had higher grade point averages, completed more hours, and persisted in college to complete their freshman year, in comparison with those students who did not enroll in the developmental reading course.

IX. DESCRIPTION OF THE INSTRUMENTS

There were two instruments used in this study. These instruments were the Nelson-Denny Reading Test Forms D and E, and the Stanford Diagnostic Reading Test Forms A and B.

The Stanford Diagnostic Reading Test is designed to diagnose students' strengths and weaknesses. According to Karlson, Madden, and Gardner, it measures the major components of the developmental reading process. These components are decoding, vocabulary development, comprehension, and rate.[10]

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[10]Bjorn Karlson, Richard Madden, and Eric F. Gardner, Stanford Diagnostic Reading Test Manual (Harcourt, Brace & Jovanvich, Inc., New York, 1977), p. 5.

Buros stated that the authors have been painstaking in construction and refinement of the Stanford Diagnostic Reading testing materials. The technical characteristics seem to be highly satisfactory: K-R20 reliabilities range from .79 to .98 for various subtests across levels, with a vast majority of the coefficients exceeding .90. Intersubtest correlations for the most part fall substantially below reliabilities, supporting at least some degree of independence among the skills measured by the subtests.[11]

The Nelson-Denny Reading Test is designed to provide a reliable level of student achievement in the areas of vocabulary, reading comprehension, and reading rate. Brown, Bennett, and Hanna stated that it is composed of two subtests--vocabulary and comprehension. This vocabulary section consists of one hundred items, each with five answer choices, and it has a time limit of fifteen minutes.[12] The comprehension section contains eight reading passages and a total of thirty questions, each with five answer choices. The time limit for this section is twenty minutes, the first minute is used to determine reading rate. Therefore, the total administration time for the entire test, including answer sheet preparation, is no longer than forty-five minutes.

Buros stated that the Nelson-Denny Reading Test may have some validity as a screening device for identifying students who need

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[11]Oscar Kristen Buros, The Eighth Mental Measurement Yearbook (Highland Park, New Jersey, The Gryphon Press, 1978), p. 777.

[12]James L. Brown, J. Michael Bennett, and Gerald Hanna, The Nelson-Denny Reading Test Manual (The Riverside Publishing Co., 1981), p. 1.

remedial work. However, very little empirical evidence is given to support its use as a predictive instrument.[13] The evidence that is provided pertains primarily to University of Minnesota students and relates the Nelson-Denny to grades in several college courses and grade point averages. He pointed out further that in general, on the basis of this evidence, it seems reasonable to conclude that the Nelson-Denny Reading Test adds little to our ability to predict grades beyond what we can do with high school rank alone.[14]

These instruments are widely used in community/junior colleges as screening devices to identify and place students who need developmental or remedial reading. They provide a means for prompt analysis of reading problems.

X. DEFINITION OF TERMS

For the purposes of this study, the following terms are defined to their intended meaning in this comparative-descriptive research.

Reading. According to Gephart, reading is the application of thinking or reasoning skills, as observation, prediction and verification in analyzing an author's meaning.[15]

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[13]Buros, op. cit., p. 738.

[14]Buros, op. cit., p. 736.

[15]Theodore L. Harris and Richard E. Hodges, A Dictionary of Reading and Related Terms (Newark, Delaware: International Reading Association, 1981), p. 264.

Reading laboratory. The term "reading laboratory" is interpreted to mean a specialized facility with materials and programs for the teaching of developmental and/or remedial reading and study skills.[16]

Comprehension. "Comprehension" refers to the aspect of the reading process which relates to the interpretation and the understanding of written material by the reader. Comprehension involves the understanding of the vocabulary in the context, grasping the pattern of thought in a passage, understanding the relationships that exist between the details and important ideas, detecting implied meanings, and reading conclusions. Comprehension is the ability to integrate the ideas expressed with experience.[18]

Developmental reading programs. A comprehensive educational program of remedial and non-remedial reading instruction for students who are deficient in reading and study skills.[17]

Vocabulary. The term "vocabulary" includes knowledge of the elements in the structure of language, that is words and symbols. However, in this study, "vocabulary" describes the individual's responses to items drawn from general word meanings and the word

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[16]Ibid., p. 268.

[17]Ibid., p. 85.

[18]Eleanor M. Patterson, Aspects of the Readability in the Social Studies (New York: Bureau of Publications, Teachers College, Columbia University, 1970), p. 13.

meanings which are peculiar to science, social studies, humanities, English, and mathematics.[19]

Reading speed or rate. "Speed or rate" refers to the individual's quickness in reading, and it is usually expressed in terms of words per minute reading. Reading speed is determined by measuring the student's normal rate of reading easy, interesting story-type material having a generally simple vocabulary load.[20]

Open-door policy. The policy of allowing the admission of high school graduates and other persons eighteen and over who are interested in higher education to obtain an Associate of Arts Degree or who wish to pursue technical and vocational programs.[21]

High-risk student. The term "high-risk" student refers to any entering freshman student carrying a full-time (twelve quarter hours or more) course load in the day program at Chattanooga State Technical Community College. These students' composite score on the American College Test was below sixteen. They failed the Chattanooga Placement Test, and they scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test at the beginning of the 1981-82 fall quarter.

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[19]Henry Rinsland, A Basic Vocabulary of Elementary School Children (New York: The Macmillan Co., 1965), p. 1.

[20]Karlson and others, op. cit., p. 6.

[21]Roueche and Kirk, op. cit., p. 48.

Student low in reading ability. The term "student low in reading ability" refers to an educationally disadvantaged student who has not mastered the basic reading skills which would enable him to read college level textbooks with understanding. As a result of this deficiency, this student's potential for failure in college is high. The terms are used several times in this research interchangeably with low achieving, high-risk, and non-traditional students.

Full-time day-student. The term "full-time day-student" refers to the freshman student who was low in reading ability, who enrolled in at least twelve quarter hours during the fall quarter.

Experimental group. The term "experimental group" refers to a group of full-time community/junior college freshman day student who are low in reading ability, who enrolled voluntarily after advisement in a developmental reading course during the fall quarter.

Comparative group. The term "comparative group" refers to a group of full-time community/junior college freshman day students who are low in reading ability, who enrolled by choice in courses in their major filed of concentration and/or one course in developmental mathematics and psychology.

XI. PROCEDURES

One of the primary purposes of this research was to study a developmental reading course in terms of its impact on retention and

achievement of freshman students at Chattanooga State Technical Community College during the 1981-82 academic year. To accomplish this, it was necessary to (1) survey the related literature to see if there were other studies similar to the present one, (2) contact the Dean of Admissions for permission to conduct the study, (3) contact the Assistant Dean of the Instructional Materials Center for permission to examine the records in his office and record the Nelson-Denny Reading pretest scores from Form D, (4) identify two groups of freshman students who scored below 11.0 on the Nelson-Denny Reading Test Form D at the time of admission, and who were classified as full-time day students during the fall quarter.

Another principal purpose of this study was to collect objective data from the administration of standardized reading tests prior to and after the students completed the course. Therefore, the Stanford Diagnostic Reading Test Form A was administered at the beginning of the course, in order for the instructor to write teacher-guided individualized reading programs for the students, (5) the posttest of the Stanford Diagnostic Reading Test Form B was administered at the end of the course to measure the progress made by the students on the subskills, (6) the posttest of the Nelson-Denny Reading Test Form E was administered after the course, and (7) data services were utilized to secure grade point averages, total hours completed per quarter, and retention according to race and sex.

A more detailed explanation of the materials used in the present study will be discussed in Chapter III. However, the research

techniques and methods utilized were predicated upon the purpose of the study as described in the present chapter. Because this study was concerned with the impact of a developmental reading course on student retention and achievement in a two-year technical community college, the methods employed were designed to measure in their entirety the reading practices of the students who enrolled in the course, and to compare grade point averages, total hours completed, and retention according to race and sex with a comparable group of students who did not take the course.

XII. PROCEDURES IN COLLECTING DATA

The data in this study were collected during the 1931-82 academic year; however, some information was on file in the Office of the Assistant Dean of the Instructional Materials Center. Pretest results could sometimes be obtained from records in the Learning Laboratory at Chattanooga State Technical Community College since the laboratory technician administered the test to all entering freshman students at the time of admission.

The Stanford Diagnostic Reading Test was administered to the students participating in the study in an effort to diagnose their strengths and weaknesses in the areas of vocabulary, comprehension and reading rate. This test was administered before and at the end of the course instruction in reading. The posttest of the Nelson-Denny Reading Test was administered in an effort to determine reading

achievement, if any, which occurred in their reading skills after the completion of the developmental reading course. This procedure provided some concrete evidence concerning pretest and posttest results of those freshman students who participated in the developmental reading course at the community/junior college level.

XIII. PROCEDURES IN ANALYZING THE DATA

T-test comparisons were computed within and between the pretest and posttest mean scores of the Stanford Diagnostic and the Nelson-Denny Reading Test for the experimental group. Their grade point averages, total hours completed, and retention according to race and sex were compared with a similar group of students who comprised the comparative group. The level of significance employed in the analysis of the data was the .05 level.

The Pearson Product Moment Correlation Coefficients were used to compute the relationships studied in this investigation.

The correlation of all possible factors was within the purpose and scope of this study. As a result, a study of intragroup relationships were examined within and between the pretest and posttest scores on the subskills of the Stanford Diagnostic Reading Test and the same procedure was used to analyze the pretest and posttest mean scores of the Nelson-Denny Reading Test.

The use of test results as a single criterion for determining the impact of a developmental reading course on retention and achievement may be based on an inadequate assumption that a reading test

score is a valid measure to draw such a conclusion. However, a combination of reading test data and academic achievement may provide some insight as to the influence of a reading improvement course on entering community college freshman students.

XIV. ORGANIZATION OF THE STUDY

Chapter I contains the introduction of the study, a statement of the problem, the purpose, the rationale, description of the subjects of the study, historical background and information about the community/junior college, assumptions made by the researcher, delimitations of the study, a brief description of the developmental reading program, description of instruments, definition of terms, procedures in collecting the data, procedures in analyzing the data and the description of the organization of the study.

Chapter II is a review of the literature pertinent to the (a) controversy about the "open door" admission policy of the community/junior college, (b) the effectiveness of reading programs, (c) pre-college reading programs, (d) comparisons of reading methods, (e) adult reading programs, (f) other communication skills programs, and (g) related studies.

Chapter III contains the population, methodology, and procedures of the research, and findings will be presented in Chapter IV.

The summary, findings, conclusions, recommendations, and implications for further study are presented in Chapter V.

CHAPTER II

REVIEW OF RELATED LITERATURE

The review of the literature pertinent to this study is presented in this chapter under the following sections: (a) controversy about the "open door" admission policy of the community/junior college, (b) the effectiveness of reading programs, (c) pre-college reading programs, (d) comparisons of reading methods, (e) adult reading programs, (f) other communication skills programs, and (g) related studies.

I. CONTROVERSY ABOUT THE "OPEN DOOR" ADMISSION POLICY OF THE COMMUNITY/JUNIOR COLLEGE

The community/junior college has received some criticism for its open admissions policy. Critics of this policy have attacked the philosophy which promises educational opportunity for everyone. Some charge that the community/junior college is lowering its potential by being all things to all people. Others are antagonistic toward the community/junior college. For instance, Banks stated that the two year college is in a sorry state of affairs.[1] Lynes wrote about the unpredictable future of the two-year college.[2] He emphasized that its

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[1] W. M. Banks, "A Review of Against the Odds," by William Moore, Jr., Personnel and Guidance Journal, 1971, p. 49.

[2] R. Lynes, "How Good Are the Junior Colleges?", Harpers's Magazine, 1966, p. 233.

functions are diverse, its students are scattered, and its efforts to be all things to all students are misleading.[3]

Cohen, who is a more friendly critic, believed that community/junior college spokesmen can be characterized by a "lack of genuine self-appraisal" and most often by a "mixture of defensiveness and self-congratulations."[4]

Jennings challenged the community/junior college to make good its promises by accepting as its only viable mission the matching of its pretensions with performance.[5] He stated that "in attempting to meet the instructional needs of all the people, the community/junior college fails. It strives for continuities and creates fragmentation. It delivers less than what it so generally promises. It fails the students who need the most help and to those who see direction, order, goals, or purpose, it offers the jigsaw puzzle of an all purpose curriculum."[6]

Jennings maintained that the community/junior colleges have had "a relatively short, generally affluent life up to now, insulated from criticism mainly by the public relations barrage they maintain." He further stated that "if the 'people's colleges' are ever to fulfill their role as preeminent teaching institutions, then they will need

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[3]Ibid., p. 234.

[4]A. M. Cohen, "Dateline '79, Heretical Concepts for the Community College," (Beverly Hills, California: Glenco Press, 1969), p. 8.

[5]F. G. Jennings, "The Two-Year Stretch," Change, 1970, p. 24.

[6]Ibid., p. 25.

to do far more than rely on the academic mystique, inherited from above, that says all one needs to do is profess what one is."[7]

A helpful critic such as Roueche continued to "needle" the consciences of community/junior college educators by reminding them that the open door concept is not yet a reality.[8] Gleazer wrote that the greatest challenge facing the two-year college during the 1970's was that of making good on its promise to provide a meaningful education for all.[9]

In spite of the controversy, the open admission policy has brought about an almost unbelievable increase in community/junior college enrollments. Stevenson reported that enrollment in Florida's community/junior colleges increased from 4,000 students in five colleges in 1955 to 120,000 students in twenty-seven community/junior colleges in 1969. Florida's Department of Education as reported by the Education Daily in 1971 estimated that the 1980 enrollment will double that figure.[10]

Medsker and Tillery reported that approximately one-third of all students entering college in the United States are doing so through

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[7]Ibid., p. 26.

[8]J. E. Rouche and A. S. Hurlburt, "The Open Door College: Problems of the Low Achiever," Journal of Higher Education, 1968, p. 12.

[9]E. J. Gleazer, Jr., "The Community College: Issues of the 1970's," Educational Record, 1970, p. 47.

[10]J. C. Stevenson, "Implementing the Open Door: Compensatory Education in Florida's Community Colleges, Phase II: English Composition," (Gainesville Florida Community/Junior College Inter-Institutional Research Council), September, 1970, pp. 1-2.

the "open doors" of the junior college. They indicated that these are not only traditional college-bound students who were brought up to believe that "going to college" is a necessary part of growing up, but in ever increasing numbers new students, non-traditional students, students whose parents did not attend college, students who in their wildest moments of fantasy never gave serious thought to attending college.[11]

It can be concluded that the lower socioeconomic levels increase in representation, thus bringing more students deficient in mathematics, English, and reading skills onto the campuses to which they can gain admission.[12] Social pressures and the changing job market are other factors involved in this current trend toward universal higher education. As the number of unskilled jobs decreases, the number of unskilled workers increases, resulting in frustrated citizens and an unlimited waste of human resources.[13] The community college, then, has been lauded as a potential force in the democratization of educational and economic opportunities.[14]

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[11] L. D. Medsker and D. Tillery, Breaking the Access Barriers: A Profile of Two-Year Colleges (New York: McGraw-Hill, 1971), p. 16.

[12] K. Patricia Cross, "Higher Education's Newest Student," Junior College Journal, 39:38, September, 1968, pp. 3-4.

[13] William Moore, Jr., "Opportunity for the Disadvantaged," Stress and Campus Response (San Francisco: Jossey-Bass, 1968), p. 234.

[14] Thomas E. O'Connel, Community Colleges: A President's View (Chicago: University of Illinois Press, 1968), p. 58.

Some educators have recognized the theoretical implications of the "open door" policy for program variety and flexibility. The "rescue" or "salvage" function of the community college is the subject of many publications.[15] In this age of accountability, no instruction is more involved than the community college. Leon Lessinger discussed educational accountability when he wrote:

> Our schools must assume a revised commitment--that every child shall learn. Such a revised commitment includes the willingness to change a system which does not work, and find one which does; to seek causes of failure in the system and its personnel instead of focusing solely on students; in other words, to hold the school accountable for results in terms of student learning rather than solely in the use of resources.[16]

Roueche stated that it is the open admissions policy that encourages non-traditional students to enroll, because many two-year colleges proclaim that they actively recruit such students into various college programs. Moreover, he believed that most of the controversy and criticism of the "open door" seem to be directed at its implied promise that the community/junior college will provide successful learning experiences for all students.[17]

Nevertheless, advocates of the community/junior college believe it can meet the challenge of providing quality education for low achieving youth by being a "teaching institution." This claim is

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[15] An Introduction to American Junior Colleges (Washington: American Council on Education, 1967), p. 27.

[16] John E. Roueche, George A. Baker, III, and Richard L. Brownell, Accountability and the Community College (Washington: American Association of Junior Colleges, 1970), p. 7.

[17] John E. Roueche and R. Wade Kirk, Catching Up: Remedial Education (Jossey-Bass Publishers, San Francisco, 1973), p. 9.

reinforced by two-year colleges, who proudly reject the idea of instructors becoming involved in the research and publication activity that is so prevalent in four-year institutions. Supporters of the community/junior college take great pains to emphasize that teaching staff in the two-year college devote full-time to teaching.

Cross stated that since community/junior colleges were established as teaching institutions with a concern for correcting past educational inequities, the scenario of working harder toward making community/junior colleges more student centered would be a reasonable goal.[18] She commented further that it is even possible that such directed energies could fire community/junior colleges with the zeal that once burned bright for equal access. However, when community/junior colleges were fired with the mission of bringing about equal access, they had the field to themselves, the money and the students to implement it. Other colleges were not, for the most part, interested in competing for the clientele served by open admission colleges; therefore, community colleges did not have to do the job that society wanted done.[19] Now, however, the field is quite crowded with colleges eager to demonstrate their "student centeredness" and while community/junior colleges have more experience than most other institutions with remedial or developmental education for

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[18]K. Patricia Cross, "Community Colleges on the Plateau," The Journal of Higher Education (Ohio State University Press, March/April, 1981, Vol. 52, No. 2), pp. 113-123.

[19]Ibid., p. 124.

students deficient in basic mathematics, English, and reading skills, there is not much confidence on campus that administrators and instructors know how, nor are they seriously willing to help students improve and overcome these deficiencies.[20] She continued by stating that the prospect seems even worse for establishing a reputation for attending to these academic deficiencies of this larger commuting, part-time clientele.[21] Consequently, student deficiencies are not overcome and the "open door" in which they entered becomes the "revolving door" where they exit.

Roueche emphasized that the "open door" should not become a "license to fail," but rather must be viewed as being consistent with democratic concepts of individual worth and educational opportunity for all.[22] Edmund Gleazer, Jr., a renowned community college educator, called remediation a "legitimate--even more, an essential--task of the community college."[23] Blocker, Plummer, and Richardson included developmental education as an essential function of two-year colleges,[24] as did Kelley and Wilbur in their text on the community/

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[20]Ibid., p. 125.

[21]Cross, op. cit., p. 126.

[22]Roueche, Baker, and Brownell, op. cit., pp. 7-8.

[23]Edmund J. Gleazer, Jr., This is the Community College (Boston: Houghton-Mifflin Company, 1968), p. 58.

[24]Clyde E. Blocker, Robert R. Plummer, and Richard C. Richardson, Jr., The Two-Year College: A Social Synthesis (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965), p. 34.

junior college.[25] In 1970, the Tennessee Higher Education Commission, in its biennial report, called remediation efforts a good investment,[26] and a 1971 conference on the community/junior College held at The University of Tennessee listed remediation as an essential function.[27]

Nevertheless, further research indicated that there is evidence of overall ineffectiveness of current efforts to meet the challenges of the "open door." A Southern Regional Education Board study revealed that although 65-90 percent of community college freshman students enrolled in developmental reading and college transfer programs, only about 30 percent actually transferred, with approximately 15-20 percent eventually earning the Bachelor's Degree.[28] The same study showed that the typical sophomore class enrollment was only about 65 percent of the freshman class enrollment and concluded that:

> Junior colleges have not demonstrated that they are effective in educating students who have serious deficiencies in reading prior to entering the junior college as far as continued work toward a baccalaureate degree is concerned.[29]

Several authors stressed the extremely high attrition rates common to the community college freshman students. In 1969 the

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[25]W. Kelley and Leslie Wilbur, Teaching in the Community Junior College (New York: Meredith Corporation, 1970), pp. 14-16.

[26]Proceedings: Conference on the Community/Junior College (Knoxville: College of Education, The University of Tennessee, 1971), p. 10.

[27]Ibid., p. 10.

[28]Effective Use of Resources in State Higher Education (Atlanta: Southern Regional Education Board, 1970), pp. 23-24.

[29]Ibid., p. 24.

American College Testing Research Report took note of this phenomenon,[30] and some authors contended that the "open door" was no more than a "revolving door" for many students.[31] One study showed that attrition rates were as high as 50-75 percent a year; as in one California junior college where 80 percent of the entering freshman students enrolled in remedial reading and English, but only 20 percent eventually went into the regular classes.[32] The Carnegie Commission estimated that approximately 40 percent of all community college freshman students enrolling in the fall of 1971 would ultimately obtain the degree to which they aspire;[33] as a result, it was recommended that community colleges reassess their fundamental goals and means concerning students who are low in mathematics, English and reading skills.[34] Roueche's compilation of data on community/junior college remediation efforts found that 40-60 percent of remedial English and reading students in California received either a D or an F grade during one year indicating the general ineffectiveness of

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[30]Leonard L. Baird, James M. Richard, Jr., and Linda R. Shevel, A Description of Graduates of Two-Year Colleges, A.C.T. Research Report No. 28 (Iowa City, Iowa: American College Testing Program, 1969), p. 1.

[31]W. A. Harper, "The Community and Junior College: An Overview," Peabody Journal of Education, 48:259, July, 1971.

[32]Roueche, Baker, and Brownell, op. cit., pp. 11-13.

[33]Less Time, More Options: Education Beyond the High School. A Special Report and Recommendations by the Carnegie Commission on Higher Education (New York: McGraw-Hill Book Company, 1971), p. 9.

[34]Medsker and Tillery, op. cit., p. 147.

some remedial or developmental programs.[35]

It was documented that minority freshman students admitted to predominantly white two-year institutions of higher education leave school, apparently without achieving their desired educational goals, at a much higher rate than their white counterparts. Sedlacer and Webster reported from a national survey of 110 predominantly white two-year institutions that these institutions included in the survey enrolled 4 percent to 5 percent of new black freshmen during recent years.[36] In subsequent years, however, only 2.5 percent of the returning group was black. Walton stated that private institutions have a much higher retention rate than public two-year institutions.[37] He indicated also that two-year institutions that place emphasis on academic programs rather than on money tend to retain more minority freshman students.[38]

Reed stated that factors which contributed to high rates of attrition among ethnic minority freshman students included alienation, deficiency in reading and study skills, low grade point averages, and

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[35]Roueche, op. cit., p. 3.

[36]W. E. Sedlacer and D. W. Webster, "Admission and Retention of Minority Students in Colleges and Universities," Journal of College Student Personnel (September, 1973, Vol. 19), pp. 242-248.

[37]Joseph Walton, "Retention, Role Modeling, and Academic Readiness: A Perspective on the Ethnic Minority Student in Higher Education," The Personnel and Guidance Journal (American Personnel and Guidance Association, October, 1979, Vol. 58), pp. 124-126.

[38]Ibid., p. 127.

inadequate counseling program.[39] However, a review by Smith, Maxwell, Carney, and Fontaine indicated another factor such as coming from a lower status family, where ability is supposed to be held constant.[40] On the other hand, Sedlacer and Brooks identified several "non-cognitive predictions," which they found useful in attempting to predict freshman minority students' success in a community/junior college. One such predictor was "the availability of a strong support person,"[41] a person with academic prowess with whom the students can identify. This predictor is critical to the retention of ethnic minority freshman students in higher education, whether it is in a two-year technical community college or a four-year institution.

Consequently, Schultz wrote in the same year that "...most of our past efforts in remedial education can only be described as colossal failures,"[42] and Edmund Gleazer stated that "...the most critical issue now confronting the community colleges of this country is to make good on the implied promise of the 'open door.'"[43] In

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[39]R. J. Reed, "Increasing the Opportunities for Black Students in Higher Education," Journal of Negro Education (October, 1978, Vol. 47), pp. 143-150.

[40]N. T. Smith, J. D. Maxwell, M. L. Carney, and P. D. Fontaine, "Student Retention Studies," College and University (October, 1976, Vol. 5), pp. 652-654.

[41]W. E. Sedlacer and G. C. Brooks, Jr., Racism in American Education, A Model for Change (Chicago: Nelson-Hall, 1976), pp. 325-328.

[42]Raymond E. Schultz, "Curriculum Trends and Directions in American Junior Colleges," Peabody Journal of Education, 48:266, July, 1971.

[43]Proceedings: Conference on the Community/Junior College, p. 30.

another indictment of most remedial efforts, Moore accused two-year institutions of intellectual racism, academic tokenism, and background efforts at remediation or developmental techniques."[44] It appears, then that American community/junior colleges are in a dilemma with their developmental process. They must accept the challenge of designing success-oriented programs for students low in mathematics, English and reading skills, or they must choose to become less identifiable with the policy of the "open door" institution.

II. THE EFFECTIVENESS OF READING PROGRAMS

Today, as in previous years, the main purpose of reported research in reading appears to be to evaluate the effectiveness of reading and study skills programs. When Olson, Stanford, and Ohnmacht evaluated the effectiveness of training in reading and study skills at the University of Maine in 1960, they found that the Nelson-Denny Reading Test and the Otis IQ Test were given to both experimental and control groups prior to and upon completion of the semester. At the beginning of this study, the control group was superior to the experimental group on all subtests of the Nelson-Denny and the Otis. The mean scores on the Nelson-Denny indicated that the experimental group attained parity with the control group in comprehension and

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[44]Moore, Against the Odds, pp. 43-44.

reading rate. The control group continued to retain its superiority in both vocabulary and total score.[45]

However, a report by Bryan indicated that the eighty-four University of Kentucky College of Nursing freshman students who participated in a ten-week, two-hour weekly session, reading improvement course made significant test score gains in rate and efficiency. They dropped significantly in comprehension, but retained significant gains in rate and efficiency over a five month period. As a result, the student reactions were favorable to the program, but the grade point average changes the next semester were not significant. However, this was attributed to conditions of unrest on the campus.[46]

Standardized testing was inappropriate according to Erickson for the Otero Colorado Junior College's reading program.[47] He stated that effectiveness was indicated by the program's instructional impact, availability and hours per week of facilities and instructors, and comments of clients that the program met their needs, and its economic efficiency,[48] as did J. L. Smith in his report from questionnaire and interview responses of students who participated in a

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[45]A. V. Olson, A. Stanford, and F. Ohnmacht, "Effectiveness of Freshman Reading Program," Journal of Reading, Vol. 8, November, 1964, pp. 75-83.

[46]W. A. Bryan, "A Study to Determine the Relative Effectiveness of a Developmental Reading Course in the College of Nursing at the University of Kentucky," (Doctoral Dissertation, University of Kentucky, 1971), July, 1972, p. 23.

[47]M. E. Erickson, Otero Junior College Reading Study Skills Laboratory -- A Supporting Service, In Kerstiens (1972), pp. 42-44.

[48]Erickson, op. cit., p. 45.

reading and study skills program at Indiana University.[49]

In another study with several groups of Texas Community College students, Rice found that these students made gains on the Nelson-Denny Reading Test after completing a developmental reading course.[50] He pointed out that rate showed the greatest gains, and reading comprehension showed the lowest gains.[51] In spite of the above findings, some differences were reported in the gains among older students and vocational-technical and business students. Subsequently, at the University of Manitoba, students were identified by Ritter to have made significant grade point average gains for four to seven months following their participation in a study skills program of five one-hour sessions.[52] Furthermore, the results of the questionnaires administered to the students indicated that they rated underlining and "developing study sheets" lessons as most useful.[53]

No data on evaluation were presented by Garofalo in his report of a college reading program at the University of Maryland. He

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[49]J. L. Smith, "Student Perception of a Reading and Study Skills Center," (Doctoral Dissertation, Indiana University, 1969), Dissertation Abstracts International, July, 1970, 31, 181A.

[50]H. D. Rice, "A Study to Determine the Effectiveness Reading Program in a Community College Setting," (Doctoral Dissertation: East Texas University, 1971), Dissertation Abstract International, April, 1972, 33-5573A-5374A. Ann Arbor: University Micro Films, Order No. 72-100.

[51]Ibid., p. 101.

[52]J. H. Ritter, University Study Skills Program, Journal of Reading, March, 1971, pp. 377-380.

[53]Ritter, op. cit., p. 38.

commented that evaluation was difficult and that the worth of a college program should be measured in the same way that a library's worth is determined--by the number of students using the program and by the breadth of resources made available to the college community.[54] He emphasized further this method of measurement is far more useful than standardized test scores, or the feelings of the instructor or the students.[55]

Contrary to Garofalo's report, however, a number of investigations were conducted by other researchers in reading who used standardized test scores to determine the impact of pre-college reading programs on student achievement after they had participated in a summer reading program.

III. PRE-COLLEGE READING PROGRAMS

Several studies were concerned with the performance of students who participated in reading programs prior to entering college. For instance, Holmes found a significant relationship between the participation of students in a special summer college preparatory and enrichment program at Jarvis Christian College and the academic achievement during the freshman year.[56] Johnson, Jacobson, and Beaber reported

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[54]V. J. Garofalo, "A College Reading Program," Journal of the Reading Specialist (December, 1970, Vol. 10), pp. 108-112.

[55]Ibid., p. 113.

[56]L. B. Holmes, "A Comparative Study of the Academic Performance of Two Groups of Entering College Freshmen," (Doctoral Dissertation, North Texas State University, 1970), Dissertation Abstracts International, (April, 1971, Vol. 31), 5232A-5233A. Ann Arbor: University Micro Films, Order No. 71-8677.

that the analysis of test score gains of a group of college-bound rural high school students in a reading improvement program indicated that vocabulary and comprehension gains were related to "genotypical" variables such as CA, IQ, socioeconomic status, sex and race, while reading rate gains were influenced by "phenotypical" variables such as school attended and college selected.[57]

A group of 184 high-risk high school graduates who participated in Project Speed, which was a "Summer Program for Educational Enrichment and Development" in three Georgia junior colleges and which included instruction in reading, writing, study skills, and group and individual counseling, were found by Miller, Artenen, and Duncan to score significantly higher than a control group on eleven of fourteen variables on which the groups had been similar at the beginning. These results included the Nelson-Denny Reading Test scores.[58] In a similar study with 162 students, Pepper reported that 155 of these students who enrolled in Wayne State University summer reading and study skills course later completed four quarter hours of academic work.[59] However, among the activities Opison found reported least

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[57]J. C. Johnson, II, M. D. Jacobson, and J. D. Beaber, "An Analysis of Reading Proficiency and Its Improvement in University Accepted Rural Secondary Students," In Schick and May (1970a), pp. 193-197.

[58]T. K. Miller, W. W. Artenen, and J. A. Duncan, "High-Risk Students in Junior College: A Special Program," Personnel and Guidance Journal, (March, 1971, Vol. 47), pp. 537-543.

[59]R. S. Pepper, "The Study Skills and Academic Achievement of Marginal Admission Students," In Schick and May (1970a), pp. 248-253.

often useful by 450 students who participated in a Pennsylvania State University pre-registration counseling program during a nine-day period during the summer of 1967 was study skills information.[60]

On the other hand, Kling reported that both study skills information and reading test scores were found to be effective predictors of acceptance into regular college programs. This was evident when forty-three of the sixty-one socially disadvantaged incoming freshmen obtained significant gains on the pretest and posttest Nelson-Denny Reading Test scores after participation in a two-weeks summer program at Rutgers University.[61]

Research by Newman revealed that the City University of New York freshman students who received three hours a week of tutorial instruction from faculty members who were participating in a federally funded four-week summer reading and writing skills institute, practically all indicated through written evaluation that they believed they had made improvement in vocabulary development, reading for main ideas, and study type reading.[62] They further stated that they had been motivated by the instructor personnel concerned to assume initiative for further upgrading their reading and study skills.[63]

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[60]S. H. Opison, "Student Appraisal of a Pre-registration College Counseling Program," Journal of College Student Personnel (January, 1970, Vol. 10), pp. 47-51.

[61]M. Kling, "Summer Headstart for Disadvantaged College Freshman," Journal of Reading, (April, 1972, Vol. 15), pp. 509-512.

[62]R. S. Newman and J. H. Gaite, "How to Prevent an Open Door from Becoming a Revolving One: In-Service Training in Reading and Study Skills for University City Faculty," Journal of the Reading Specialist (May, 1971, Vol. 10), pp. 234-235.

[63]Newman and Gaite, op. cit., p. 236.

Furthermore, students who participated in a SEEK Program, a pre-college program for students from poverty areas, who tutored primary grade children with reading difficulties, were reported by McWhorter to have made gains themselves of one to over two years in informal inventory instructional levels, as much as or more than the children they tutored.[64]

However, a report by Gelfand indicated that students who participated in the summer qualifying program at Pennsylvania Community/Junior College developmental reading and study skills course made significant reading score gains on the Nelson-Denny Reading Test, while those who were in academic study counseling group did not. Those who received academic study counseling, and those who sought instructional help independently while in a reading and study skills course did not differ significantly in gains.[65] Moreover, writers in this field were also concerned about the relationship of different methods that were used to teach reading and study skills.

IV. COMPARISONS OF READING METHODS

It was documented that a number of investigations were concerned with comparisons of reading methods. An example of the

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[64]K. McWhorter and J. Levy, "The Influence of a Tutorial Program Upon Tutors," Journal of Reading (January, 1971, Vol. 14), pp. 221-224.

[65]J. K. Gelfand, "A Study of the Effectiveness of a Reading and Study Skills Program and Academic Counseling Procedures with a Group of Summer Qualifying Students," (Doctoral Dissertation, LeHigh University, 1971), Dissertation Abstracts International, May, 1972, p. 32.

investigations was a developmental reading program at Drew College conducted by Bliesmer in which student groups of varying sizes were exposed to each of four methods for three weekly sessions; speed and comprehension test scores obtained at various times indicated some loss in comprehension. However, gains were shown in speed scores when the method stressed speed. Moreover, there was some loss in speed and gains in comprehension when the method stressed comprehension. Gains were shown in both comprehension and speed scores from the end of the reading program to the beginning of the next period several weeks later.[66]

Spache studied three remedial reading procedures used in remedial reading classes: (1) a class which centered around a workbook, (2) a class which centered around audio-visual equipment, and (3) a class centered around individual self-improvement.[67] He pointed out that the results showed that the three procedures were equally effective in terms of rate of reading, vocabulary, and reading comprehension. However, the individualized approach was more effective in producing changes in reading habits and attitudes.[68]

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[66]E. D. Bliesmer, "Review of Research on College-Adult Reading," National Reading Conference, 22nd Yearbook, 1971, p. 221.

[67]G. Spache, L. Standlee, and D. Neville, "Results of Three College Level Reading Procedures," Journal of Developmental Reading, Vol. 1, 1960, pp. 12-16.

[68]Ibid., p. 17.

With a similar interest, Bahe attempted to determine whether instruction in reading and study skills could significantly improve the substandard scholastic performance of selected freshman of high learning potential.[69] He stated that the goals of instruction were to improve problem areas as well as improve and develop skills in time budgeting, skimming, and scanning, SQ4R, reviewing and writing.[70] Results of pre and posttesting of both experimental and control groups showed significant mean gains. Academic performance of the experimental subjects was inferior to that of the controls. Reading rate was the only significant lasting improvement by both groups.[71]

Blevins found a contrived contextual method of vocabulary instruction to be inferior to Wide Reading--Natural Contextual and to Practical Senior High School English programs in which broader natural contexts of messages were conveyed by connected words for thirty-six adult institute subjects participating in a thirteen-weeks program.[72] Curry and Roberts reported that none of the different schedule practices of reading program groups produced reading and

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[69]V. R. Bahe, "Reading-Study Instruction and College Achievement," Reading Improvement, Vol. 6, 1969, pp. 57-61.

[70]Ibid., p. 62.

[71]Ibid., p. 63.

[72]M. L. Blevins, "A Comparative Study of Three Method of Instruction in Vocabulary on Achievement of Students in the Adult Institute," Dissertation Abstracts International (April, 1971, Vol. 31), 5108A. Ann Arbor: University Micro Films, Order No. 71-10, p. 892.

spelling achievements significantly superior to that of any other practice schedule group, but practice was found to be superior to no practice at all.[73] DiSalvi reported that experimental groups of Newark State College freshmen who had participated in an evening reading and study techniques program obtained higher means than did a control group on study orientation level of comprehension and speed of comprehension scores, but not on grade point averages.[74] The differences among all groups, including the control group, were not significant except for speed of comprehension.

An experimental group of students in a Pennsylvania junior college reading program who participated in group counseling sessions during one of the three regular weekly reading periods each week were found by Florak[75] to have increased in ego strength significantly, but not significantly in study attitudes or in reading performance. Guice found that there were no significant differences in reading test scores

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[73]R. L. Curry and B. H. Roberts, "A Comparison of Four Practice Schedules in College Developmental Reading Classes," in Schick and May (1970b), pp. 65-70.

[74]R. D. DiSalvi, "An Investigation of the Relationship Between Study Techniques and Reading Improvement Program and the Academic Performance of Undergraduate Evening Students," (Doctoral Dissertation, University of Pennsylvania, 1970), Dissertation Abstracts International, (November, 1970, Vol. 31), 2174A. Ann Arbor: University Micro Films, Order No. 70-221, p. 871.

[75]E. L. Florak, "Changes in Selected Variables Resulting from Group Counseling in a Developmental Reading Course," (Doctoral Dissertation, University of Pittsburgh, 1970), Dissertation Abstracts International, (April, 1971, Vol. 31), 5123A. Ann Arbor: University Micro Films, Order No. 71-8773.

between students in reading improvement programs who had regularly practiced with sixty-nine Cloze exercises and those who had not.[76]

However, Phillips reported that neither the control nor any of the three instructional approaches--teacher-guided, individualized, and audiovisual--used in a reading and study skills program with groups of disadvantaged black college freshmen appeared to be significantly more effective for improving level and speed of comprehension as indicated by the Davis Reading Test.[77] Nevertheless, he stated that the individualized approach was most effective for positive modification of study habits and attitudes.[78] Moreover, Whitehill and Rubin found that experimental groups of Wisconsin students in free, voluntary, developmental reading courses who used instrument with paperback books, had significantly higher words per minute rate gains than did a control group which had "traditional" instruction. No significant main effects were found on the Eyzenck Personality Inventory for the intraversion-extra-version dimension.[79]

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[76]M. Guice, "The Use of the Cloze Procedure for Improving Reading Comprehension of College Students," Journal of Reading Behavior (Summer, 1969, Vol. 1), pp. 81-82.

[77]G. O. Phillips, Sr., "The Relative Effectiveness of Three Instructional Approaches Upon the Reading, Study Habits, and Attitudes and Academic Performances of Disadvantaged Black College Freshmen," Doctoral Dissertation, University of Pennsylvania, 1969), Dissertation Abstracts International (September, 1970, Vol. 31), 1084A. Ann Arbor: University Micro Films, Order No. 70-15, p. 460.

[78]Ibid., p. 461.

[79]R. P. Whitehill and S. J. Rubin, "Effectiveness of Instructional and Traditional Methods of College Reading Instruction," Journal of Experimental Instruction, (Spring, 1971, Vol. 39), pp. 85-88.

A similar study was conducted by Dubois to determine to what extent general reading materials and instruments used frequently in college improvement classes assist students in learning to read and comprehend textbooks.[80] Furthermore, he was interested in finding out if instruction in textbook reading skills and practice with subject matter materials can significantly improve the ability to read and comprehend college textbooks. As a result, he found that the students who enrolled in classes texting each question made significantly higher gains in comprehension than a control group which did not receive extra instruction.[81]

Another investigation established hypotheses about reading instruction. This investigation was conducted by Fernald who hypothesized that (1) individualized instruction would benefit low more than high achieving students, (2) individualized instruction promotes a study behavior that will carry over into conventional instruction, and (3) students in individualized instruction can more accurately evaluate their performance than conventional students.[82] The third hypothesis was confirmed from the data. However, the first hypothesis was not upheld. As for the second hypothesis, data showed

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[80]R. L. Dubois, "Improvement of Textbook Comprehension in College Reading Classes," Journal of Reading, November, 1964, pp. 113-118.

[81]Ibid., p. 119.

[82]F. S. Fernald, "Effects of Individualized Instruction Upon Low and High Achieving Students, Study Behavior, and Students' Evaluation of Mastery," Journal of Experimental Education, Vol. 43, No. 4, 1975, pp. 27-34.

that individualized instruction promotes study behavior. Nevertheless, both self-concept and exam performance data indicated that the improvement was not maintained under regular classroom conditions.[83] Other studies described reading programs which were designed for non-college adults. Some of these programs were under the auspices of the Adult Basic Education Council.

V. ADULT PROGRAMS

Programs with non-college adults were involved in several reports. Among the reports was one by Brooks, who described the origin and growth of classes for adults in remedial writing and reading in England.[84] He stated that the effects of the program were impossible to measure. Nevertheless, the tests which were given at six-month intervals indicated "a shift of a few points in an upward direction; and that the classes seemed to have had the effect of helping many to advance socially, and on their jobs."[85] Inmates in two Ohio penitentiaries who used programmed textbooks in adult basic education courses were found by Carson to be able to show definite gains in reading vocabulary, comprehension, and total scores, ABE, at both easy and difficult levels.[86]

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[83] Ibid., p. 35.

[84] R. B. Brooks, "Remedial Education in Surrey," Adult Education (London/September, 1970, Vol. 43), pp. 150-156.

[85] Ibid., p. 157.

[86] J. E. Carson, "The Effects of Programmed Instruction as a Supplementary Teaching Aid in Adult Basic Education at Ohio State

A comparison of a group of Atlanta adult program participants who had received twelve weeks of training to improve reading skills in a Communications Skills Laboratory according to Fant[87] made significant gains in word meaning and paragraph meaning as indicated by the Stanford Achievement Test scores. However, an experimental group who had received training with O. K. Moore's Talking Typewriter made significant gains only in paragraph meaning scores, with a comparison group having made significantly greater gains.[88]

Warsh's follow-up study of behavior modifications in adults who had sucessfully completed a Michigan adult literacy training program recalled that most could read at least as well as when they had completed the literacy program. Moreover, large numbers had continued to grow in reading and had been reading regularly.[89] As a result, over 80 percent were involved in some form of organized activities, and voting habits had changed.

Reformatory," (Doctoral Dissertation, Ohio State University, 1970), Dissertation Abstracts International, (March, 1971, Vol. 31), 4441A. Ann Arbor: University Micro Films, Order No. 71-6951.

[87]B. J. Fant, "The Talking Typewriter in a Program for the Adult Disadvantaged," (Doctoral Dissertation, University of Florida, 1969), Dissertation Abstracts International (November, 1970, Vol. 31), 2000A. Ann Arbor: University Micro Films, Order No. 70-20, p. 751.

[88]Fant, op. cit., p. 752.

[89]H. E. Warsh, "Behavior Modification of Adult Illiterates and Functional Illiterates Who Learned to Red," Dissertation Abstracts International, (September, 1970, Vol. 31), 1102A. Ann Arbor: University Micro Films, Order No. 70-16, p. 527.

In a study by Bain, the U. S. Air Force personnel in Vietnam participated in an intensive commercial reading program for forty to fifty hours. Because of their participation in the reading program, they made gains of zero to almost 300 percent rate of comprehension scores.[90] Likewise, Meyer reported that the poorer readers among the sixty-six Detroit Urban area adults who participated in a six-weeks reading improvement course made significant gains in Nelson-Denny Reading Test Comprehension and Vocabulary scores, but the better readers made significant gains in only comprehension scores. Consequently, three-fourths judged that their reading had improved "moderately" or "very much."[91]

A voluntary basic education program in which thirteen black and four white students were enrolled was described by Heitzman and Putnam.[92] In their description, students received tokens to reinforce skill learning responses. Mott Basic Language Skills Program materials were used in the thirty weekly sessions. Gain expectations that 80 percent of the participants would make 1.5 years of growth in arithmetic and reading skills were met by

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[90]J. M. Bain, "Reading Achievement Gains of Adults in an Air Force Program," Journal of Reading (April, 1971, Vol. 34), pp. 467-472.

[91]J. Meyer, "Reading Improvement for Urban-Area Adults," Journal of Reading (December, 1970, Vol. 14), pp. 183-186.

[92]A. J. Heitman and M. J. Putnam, "Token Reinforcement and Adult Basic Education," Journal of Reading (February, 1972, Vol. 15), pp. 330-334.

twelve and eleven, respectively, of the seventeen adults.[93]

Inmates of Florida Correctional Institution, who were taught with a programmed linguistic spelling kit, made greater gains, but not significant ones, in spelling achievement when they were compared with a group taught by "traditional" methods, according to Metcalf.[94] However, there were no significant differences noted between the two groups for reading vocabulary and reading comprehension test scores.[95]

A pupil-tutoring pairing plan carried out in England in which approximately 400 men and women deficient in basic reading skills received individual help from tutors in private homes, was described by O'Brien Twohig.[96] He discussed the changes made in tutor selections and preparations; however, evaluations of the effectiveness for skills improvement of subjects were not reported.[97] Moreover, other

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[93]Ibid., p. 335.

[94]J. J. Metcalf, "A Study to Compare the Effectiveness of a Programmed Linguistics Spelling Kit with Traditional Methods of Teaching Spelling to Functionally Illiterate Adults in Correctional Institutions," (Doctoral Dissertation, The Florida State University, 1971), Dissertation Abstracts International (May, 1972), p. 32.

[95]Ibid., p. 33.

[96]O'Brien Twohig, Cambridge House Literacy Scheme, Adult Education (September, 1972, Vol. 45), pp. 146-149.

[97]Ibid., p. 150.

communication skills programs were incorporated in the literature. These programs compared and described students' performance in spelling, reading, writing, and English fundamentals.

VI. OTHER COMMUNICATION SKILLS PROGRAMS

A description of both an experimental group of freshman English composition students who were exposed to a series of ten weekly sessions of analysis of written lessons on and discussion of essays, and a control group which read the essays without the analysis instructions, made significant gains on a reading test. This test measured the awareness of rhetorical techniques, with the experimental group scoring significantly higher according to Calhoun.[98] Nevertheless, the results did not indicate a transfer to writing skills.

A report by Avery showed that community college freshman students in an "innovative" developmental composition course, when compared with a control group, achieved higher course grades and improved significantly more on test scores on usage, sentence patterns, punctuation, and spelling, but there was no significant difference in the reading comprehension scores for the two groups.[99]

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[98] J. L. Calhoun, "The Effect of Analysis of Essays in College Composition Classes on Reading and Writing Skills," (Doctoral Dissertation, Boston University School of Education, 1971), Dissertation Abstracts International (October, 1971, Vol. 32), pp. 26-29.

[99] R. D. Avery, "An Evaluation of an Innovative Method of Teaching Freshman Basic Communication Skills at MaComb County Community College," (Doctoral Dissertation, Wayne State University, 1971), Dissertation Abstracts International, May, 1972, Vol. 32, p. 73.

Furthermore, at the University of Illinois, students who were in a third-year Portuguese class spent one period a week in the reading laboratory working with adapted materials in English and Portuguese, as well as three periods a week in their regular class, were found by Carsella[100] to have made significant gains in comprehension in both English and Portuguese materials. However, higher gains were made in English instead of Portuguese and in narrative instead of in reading-study type materials.[101]

Results obtained by Schneider in experimental remedial English classes in which developmental reading as well as conventional content was taught indicated that emphasis on reading skills could lead to improved writing.[102] Nevertheless, she did not find significant differences over control groups in either writing or reading test score gains.

VII. RELATED STUDIES

The writer was also concerned with other studies related to the present one. She, therefore, examined progress reports made by

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[100] C. J. Carsella and D. E. Bartell, "Increasing Rate of Reading a Foreign Language," Journal of Reading (December, 1970, Vol. 14).

[101] Ibid., p. 173.

[102] V. L. Schneider, "A Study of the Effectiveness of Emphasizing the Teaching of Reading Skills to Improve Composition Skills in Remedial English Classes at Kansas City Community/Junior College," (Doctoral Dissertation, University of Kansas, 1970), Dissertation Abstracts International, June, 1971, 31, 6369-6370A.

authorities in this area. Among these reports was one by Harburton[103] who was concerned with the impact of a reading and study skills course on the academic success of a group of high-risk community/junior college students. She brings into consideration grade-point averages, the number of withdrawals during and between semesters, and the number of course hours successfully completed.[104]

An experimental study to determine what improvement could be made in reading permanency on any skills, and the effect that the gains would have on students' grades was conducted by Barbe.[105] He reported that an experimental group worked for twelve weeks to improve their reading ability. A control group was tested, but was not given any help in reading improvement. However, at the end of twelve weeks, both groups were tested. After testing the students, Barbe found that the mean reading rate of the experimental group had increased 64 percent, while the mean reading rate of the control group had increased 2 percent. Also, a comparison of the GPA of both groups indicated a gain for the experimental group, but not a significant gain for the control groups.[106]

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[103]Eleanor Harburton, "Impact of An Experimental Reading and Study Skills Course on High-Risk Student Success in a Community College," (Valencia Community College, Orlando, Florida), p. 38.

[104]Ibid., p. 39.

[105]W. B. Barbe, "The Effectiveness of Work in Remedial Reading at the College Level," Journal of Educational Psychology, Vol. 43, 1952, pp. 229-237.

[106]Barbe, op. cit., p. 238.

When Keenen compared achievement for the three quarters of groups of University of Florida freshmen who had been admitted even though they fell below minimum basic admission requirements, he found the grade point averages of the groups which had received special guidance in reading improvement programs and section and reduced course loads, did not differ significantly in grade-point averages from groups which had received no special treatment.[107] Driskell compared grades for freshmen predicted to fail who had received six weeks instruction in reading and study skills with a control group with the same qualifications which had not received instruction.[108] He pointed out that the results indicated that the treatment group had higher grade point averages after one semester of instruction in reading and study skills than the control group.[109] The results showed that all treatment students scored 80 percent on the mastery of notetaking skills, but no data were given relative to the control's scores on the same test.[110]

Mouly compared a group of students who had completed a remedial reading course with a group of students who did not take the course. The results of the comparison revealed that there were only slight

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[107] C. B. Keenen, "Comparative Achievement of Two Substandard Groups of University Freshmen," Journal of Educational Research (January, 1971, Vol. 64), pp. 205-209.

[108] J. L. Driskell and E. L. Kelley, "A Guided Notetaking and Reading Study Skills System for Use with University Freshman Predicted to Fail," Journal of Reading, Vol. 23, No. 4, 1980, pp. 327-331.

[109] Ibid., p. 332.

[110] Ibid., p. 332.

differences between posttest and grade ratios between the remedial and non-remedial reading students.[111]

Students in a remedial reading program who were taught by student tutors were compared by Yuthas with a group of students who were taught by faculty members.[112] Also compared in the results were control groups which did not take the course, but they matched the experimental group. The criteria used for evaluation were grade point average and persistence in college. As a result, the findings revealed that the experimental groups as a whole survived the control groups in persistence. However, according to Yuthas, the experimental group which was taught by the faculty contained some students who persisted in comparison to the experimental group that was taught by tutors.[113]

The identity of seventy students by Parham as persistent and non-persistent who were evaluated on different criteria[114] indicated that the persistent students were identified as those students who had attended the reading and study skills center for a total of at least nine hours, while non-persistent students were those who had

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[111]G. J. Mouly, "A Study of the Effects of a Remedial Reading Program on Academic Grades at the College Level," Journal of Educational Psychology, Vol. 45, 1951, pp. 459-466.

[112]L. J. Yuthas, "Student Tutors in a College Remedial Program," Journal of Reading, Vol. 14, No. 4, 1971, pp. 252-254.

[113]Ibid., p. 255.

[114]J. W. Parham, "Academic Success of Persistent and Non-Persistent Students Voluntarily Enrolled in a University Reading Program," Journal of Reading, Vol. 20, No. 8, May, 1972, pp. 693-696.

attended the center for a total of eight or fewer hours.[115] Evaluation was accomplished by the following criteria: (1) change in academic achievement as evidenced by GPA; (2) sex of the student; (3) personality type as measured by the Myers-Briggs type indicator; (4) college entrance reading proficiency as measured by the McGraw-Hill Basic Skills System Reading Test; (5) the general scholastic ability at the time of college entrance as measured by the school and college ability test; and (6) the type of instructional program that the subject selected. Further analysis by Parham[116] revealed that: (1) GPA means were as high among nonpersistent as the persistent students; (2) the distribution of males to females was almost equal; (3) personality measures were similarly distributed in the two groups; (4) entrance proficiency was well developed for both groups; (5) scholastic ability at the entrance to college was equally distributed among both groups and (6) the types of progress selected by students (reading rate, comprehension, study skills, or a combination) were selected equally by both groups of students.[117]

A group of students who were in a specific reading program were compared with a group do did not attend the program after one semester of instruction according Losak.[118] He found that the students in the

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[115]Parham, op. cit., p. 697.

[116]Parham, op. cit., p. 698.

[117]Parham, loc. cit.

[118]J. Losak, "Do Remedial Programs Really Work?" Personnel and Guidance Journal, Vol. 50, No. 5, 1972, pp. 383-386.

experimental group attained a higher grade point average than the control group. Nevertheless, the standardized test that was given after the semester indicated that there were no significant differences in scores.[119] Therefore, the conclusion was that overall, this particular course did not improve the student's ability to read college materials. However, the overall benefits of the reading were still considered to be positive.

In a study of student persistence by Astin,[120] GPA was more clearly associated with persistence than any other variables. Consequently, he concluded that anything that can be done to enhance academic performance also tends to reduce attrition rates. Cohen and Brawer reported that withdrawal was related to financial pressure and low grades.[121] Kersteins stated that the El Cabino College reading program "point-percentile gains on standardized tests were substantial." Measurable progress was reported on low percentage of attrition, a diminishing flunking rate and higher passing grades.

However, from 1967 to 1970, Stewart reported that the mean pre-post reading scores changes ranged from 2.0 to 3.5 grade points per semester.[122] Below average students in a community/junior college

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[119] Losak, op. cit., p. 387.

[120] A. W. Astin, Preventing Students from Dropping Out (San Francisco: Jossey-Bass, 1975), pp. 20-24.

[121] A. M. Cohen and F. B. Brawer, "Student Characteristics Personality and Dropout Propensity," (Monograph Series No. 9, Eric Clearinghouse for Junior Colleges), Washington, D.C., American Association of Junior Colleges, 1970, pp. 30-32.

[122] E. W. Stewart, "Reading Improvement Program for College Students," In Schick and May (1970b), pp. 202-207.

who were assigned to a developmental reading program were reported by Livingston to have earned high grade point averages.[123] They also displayed a more positive attitude toward various aspects of college courses.

In a study carried on with groups of New Mexico students, Beneke found those who had participated in a reading study skills improvement program made greater gains in grade point averages than those who had dropped out and had not participated in the course.[124]

According to Lavin research about academic achievement indicated that the traditional criterion of performance has been the students' grades.[125] This is not to say that grades are the best or the only criterion of performance. Indeed, much concern has been voiced about the overemphasis on grades as an indicator of academic success. Certainly, there are questions of goals and values involved. Nevertheless, grades as an important index of academic performance cannot be disputed.[126]

A comparison of the academic performance for three semesters of students who completed the Cornell Reading Improvement Program

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[123]Stewart, op. cit., p. 208.

[124]W. M. Beneke and M. B. Harris, "Teaching Self-Control of Study Behavior," Behavior Research and Therapy (February, 1972, Vol. 10), pp. 35-44.

[125]D. E. Lavin, The Prediction of Academic Performance (New York: Russell Sage, 1965), pp. 45-47.

[126]Ibid., p. 48.

with the performance of a control group was conducted by McDonald.[127] The study also compared the scholastic attrition of the experimental group over a three quarter period. He stated that the students who completed the program significantly surpassed in the control group in regard to cumulative grade point averages, and they had significantly fewer dropouts for the entire period of the study than did either the control group the remainder of the freshman year.[128]

College attrition represents an alarming waste of our most competent manpower. According to Iffert, withdrawals cannot be completely eliminated, but they can be sharply reduced.[129] If they can be reduced, the results will be a larger professional work force and a higher cultural and intellectual level of citizenry contributing to the achievement of society.

The community/junior college has had some success reaching the high-risk student as seen by increasing number of graduates. However, Clarke stated that large numbers are succeeding, and the attrition rate is decreasing only slightly.[130]

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[127]A. B. McDonald, A.S., "Influence of a College Reading Improvement Program on Academic Performance," Journal of Educational Psychology, Vol. 48, 1956, pp. 171-181.

[128]McDonald, op. cit., p. 182.

[129]Robert E. Iffert, "Retention and Withdrawal of College Students," US Department of Health, Education, and Welfare, US Government Publishing Office, Washington, D.C., 1975, pp. 99-101.

[130]J.M. Clarke, "The Prediction of Gain in Reading Among Adult Illiterates from an Analysis of Item on the Wechsler, Leiter, and Davis-Wells Scales," (Doctoral Dissertation State University of New York at Buffalo, 1971) Dissertation Abstracts International (November, 1971), Vol. 32), 1512A. Ann Arbor: University Micro Films, Order No. 71, p. 28.

As a result, Prediger wrote, persistence data in the long run may be a more valid indicator of success in college than GPA.[131] He further indicated that "in light of the dropout problem in our colleges and universities, it seems appropriate that more attention be paid to persistence in college as criterion of success. Ultimately, the student's success in college is judged not in terms of his GPA, but rather in terms of the educational program which he has completed."[132]

If a measure of program effectiveness or college success can be derived from future monetary returns for students, then, according to Levin, the evidence is unequivocal that both college persistence and achievement are related to higher earnings and greater economic opportunity.[133]

VIII. SUMMARY OF THE RELATED LITERATURE

The literature cited in this chapter covered information about: (a) the controversy about the "open door" admission policy of the community/junior college, (b) the effectiveness of reading programs, (c) pre-college reading programs, (d) comparisons of reading methods, (e) adult reading programs, (f) other

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[131] D. J. Prediger, "Predition of Persistence in College," Journal of Counseling Psychology, (1965, Vol. 12), pp. 62-67.

[132] Prediger, op. cit., p. 68.

[133] H. M. Levin, et. al., "School Achievement and Post-School Success," Review of Educational Research, (1971, Vol. 41), pp. 1-16.

communication skills program, and (g) related studies.

The Controversy About the "Open Door" Admission Policy of the Community/Junior College

The controversy about the "open door" admission policy developed because of its promise to provide educational opportunity for all people. Consequently, many critics charge that the community college is in effect, diluting its potential by promising to be all things to all people. As a result, it attempts to perform entirely too many functions; therefore, it has become the "bug-a-boo" in American education.

The Effectiveness of Reading Programs

In determining the effectiveness of reading programs, among the conclusions reached was that nearly all public two-year colleges provided some type of remedial program for freshman students. Such programs included English, mathematics, and reading. However, most colleges refrained from using the term remedial and used terms as basic, guided study, and developmental. In order to implement these programs, preliminary studies preceeded their establishment. It appeared that few colleges made studies of the programs once they were started; nevertheless, the attitude of the faculty and students was reported as favorable in most colleges.

Furthermore, several studies indicated that the students who participated in a developmental reading course made substantial gains on the posttest of the Nelson-Denny Reading Test, and in many

instances, they achieved higher grade point averages over two or more quarters in comparison to similar students who were also deficient in reading, but they did not enroll in the developmental reading course. Moreover, the purposes of the developmental programs were considered by most colleges to be "salvaged," "second chance," and "redirection."

Pre-College Reading Programs

Pre-college reading programs have been implemented in partically all community/junior colleges and some four year institutions. Many of these projects are federally funded, and they are identified by acronyms such as Project SPEED, Project SEEK, and Project HOPE.

The purpose of the pre-college reading programs is to help students improve their reading and study skills by participating in enrichment activities during the summer months. These activities usually consisted of instruction in reading, English composition, developing study techniques other basic academic skills and individual and group counseling.

The effectiveness of these programs was determined from the performance of the students on the Nelson-Denny Reading Test, and the number of hours and quarters the students completed successfully after they had participated in one of the summer enrichment programs.

Comparisons of Reading Methods

Several investigations compared the different methods of teaching reading. Comparisons were made between the contrived

contextural method versus wide reading; natural contextural method versus English; teacher-guided versus individualized instruction, and those who used audiovisual equipment versus programmed or self-teaching materials and peer tutoring. From the comparison of reading methods, it was concluded that the most effective method was probably individualized instruction; however, it was implied that any instructional method is superior to no practice at all.

Adult Reading Programs

Programs for non-college adults were reported in the literature. These programs described classes for adults who were not attending college. These adults enrolled in Adult Basic Education courses to improve in the areas of English, writing, speaking, and reading. It was difficult for the non-college adults to determine the effectiveness of these programs. As a result, they responded by stating that the programs had a positive effect on their lives, and they were advancing socially and on their jobs.

Other Communication Skills Programs

The section entitled, "Other Communication Skills Programs," describes innovative developmental communication skills in which students participated in a reading laboratory where they worked with adapted materials in English. Several studies reported that as a result of the students' participation in these programs, they achieved higher course grades, and improved significantly more on test scores on usage, sentence patterns, punctuation, and spelling, but there

was no significant difference in the reading comprehension scores between students who participated in the communication skills programs and those who did not.

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Related Studies

There was limited research that compared and described the impact of a developmental reading course on student retention and achievement in a two-year technical community/junior college. Much of the literature reviewed concerning the problem presented very inconclusive results. However, one study showed that the students who enrolled in a reading and study skills program for four semesters had lower academic failure rates. Another study revealed that grade point average was more closely associated with persistence than any other variables. Consequently, the conclusion was that anything that can be done to enhance academic performance also tends to reduce attrition rates. Furthermore, a study of programs for high-risk students in five selected community/junior colleges showed that basic reading programs helped the students to achieve higher grade point averages and to persist in college. However, from this study, the comparison of retention and academic achievement of two groups of freshman students who were deficient in reading and study skills, one group who enrolled in the developmental reading course and the second group elected to enroll in the regular college courses, the results showed that the developmental reading course did not have an impact on grade point averages of the students who took the course in comparison to a similar group of students who did not take the course. Consequently, neither group of students persisted in college longer than the other. Therefore, the developmental reading course did not have an effect on keeping the students in college.

The community/junior colleges are pioneers in the development of individualized reading courses in order to accommodate the entering freshman students where he is, rather than at some arbitrary starting point. With this instructional development, more students are voluntarily enrolling in developmental reading. This course is designed to equip them with improved reading and study skills so that they will be able to read effectively when enrolling in regular college courses. After taking the reading course, he is expected to receive higher grade point averages and complete his college career.

The literature surveyed provided the basis for conducting this comparative descriptive research that would give a closer look at college reading programs. This study was concerned with the impact of a developmental reading course on retention and achievement of entering freshman students. The research focused on reading skills, retention, and achievement. Chapter III describes the population, methodology, and procedures utilized in conducting this study.

CHAPTER III

PROCEDURES OF THE STUDY

The procedures of this study are discussed under the following topics: (a) selection of students, (b) description of instruments, (c) description of instruction, (d) collection of data, (e) analysis and interpretation of data, and (f) summary.

I. SELECTION OF STUDENTS

The students of this study were selected from the freshman population of the 1981-82 fall quarter. These students were admitted to Chattanooga State Technical Community College through the "open door" admission policy, and they were identified by the college as potentially low achievers. Those students who had American College Test composite scores of sixteen or greater, and who passed the Chattanooga Placement Test, and who scored above 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test were eliminated from this study. However, those students who did not have a composite score of sixteen or greater on the American College Test, and who failed the Chattanooga Placement Test, and who scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test were advised, but not required, to enroll in the Developmental Studies Department in developmental reading, mathematics and psychology. Therefore, this study does not represent the total number of freshman students who enrolled during the fall quarter, but a

subset of freshman students who were low in reading ans study skills.

One hundred ninety-four freshman students were in this category. Of the 194 students, as a result of counseling, ninety-three students voluntarily enrolled in Sections I, III, and IV of the developmental reading course. Of the ninety-three students, fifty-two students were entering college for the first time. Likewise, 101 students elected not to take the course. Of the 101 students, thirty-two students were entering college for the first time; consequently, two groups of students were identified: an experimental group and a comparative group. These two groups of students became the subjects for this study.

II. DESCRIPTION OF INSTRUMENTS

The students who enrolled in the developmental reading course were administered two instruments. One instrument measured the major components of the reading process, and the second instrument measured reading achievement.

The two instruments used to secure the data for this study were the Nelson-Denny and the Stanford Diagnostic Reading Tests.

The Stanford Diagnostic Reading Test diagnoses students' strengths and weaknesses in reading. The results can be used to help teachers group students or individualize instruction according

to their specific instructional needs. This instrument has seven subtests. These subtests are comprehension, word meaning, word parts, phonetic analysis, structural analysis, scanning and skimming, and fast reading.

The Nelson-Denny Reading Test is designed to provide a reliable level of student achievement in the areas of vocabulary, reading comprehension, and reading rate. It is composed of three subtests. These subtests are reading rate, vocabulary, and reading comprehension.

These instruments are used in most community/junior colleges to screen, identify and place students in developmental and remedial reading courses. From the results of these tests, a program of instruction can be designed for the students according to their individual needs. (See Appendix A for a more detailed description of the test instruments.)

III. DESCRIPTION OF INSTRUCTION

Instruction in the developmental reading course for the experimental students included sixty hours of class work. Groups of thirty students met for one hour, five days a week for twelve weeks in the reading laboratory. Individualized prescriptions were written for each student from the results of the diagnosis on the Stanford Diagnostic Reading Test. Group instruction introduced the student to the mechanical and psychological factors involved in the reading process. Reading study skills, which presented an organized

approach to reading a textbook, were taught on Tuesday and Thursday. Such skills were introduced using acronyms. The acronyms were PQRST, SQ4R, and OARWET. How to make written records, including note-taking and outlining was taught throughout the course. Test-taking skills such as skimming for overview, facts and ideas, finding the main ideas, and supporting details, organizing into summary statements, locating information, reading critically and creatively, were developed and practiced in the groups. An analysis and study was made of Latin and Greek roots, prefixes and suffixes which occurred frequently in English to help the student attack words effectively.

The laboratory periods were designed for students to practice and develop the skills introduced and discussed during the periods of instruction. Each laboratory period provided time for the student to complete reading exercises from programmed materials such as the Science Research Associates Reading Laboratory (SRA), Tactics I, Six Way Paragraphs, Educational Developmental Library (EDL), Modern Reading Skill Text, Book One and Two, McCall Crabbs Reading Exercises, Lessons for Self-Instruction in Basic Skills, and the Specific Skills Series. The laboratory periods provided an opportunity for individual conferences with the instructor, a discussion of the student profile sheet, progress, and the information of a plan which would help the student further develop his reading ability and improve his study skills. As much time as necessary was given the student in planning and developing a program of study for any area in which he was having difficulty. Individualized prescriptions provided

individualized instruction and attention during the laboratory period. Study techniques and reading skills used in different content areas were also taught, and specific topics from the textbooks were explained and discussed during the week and for unit projects.

Two textbooks entitled, SUCCESSFUL READING: KEY TO OUR DYNAMIC SOCIETY, by Maxwell H. Norman and Enid S. Kass Norman, and HOW TO STUDY, by Thomas Staton, were used in this course. The contents of these books were divided into five modules. These modules were identified as Module I, Pre-Testing; Module II, Study Skills; Module III, Student-Teacher Conferences; Module IV, Sequential Development of Reading and Study Skills; and Module V, Reading and the Content Areas. (Additional topics in outline form which are incorporated under the Modules can be found in Appendix A.)

Topics and times were explained as an approximation for the student needing work in all areas. In practice, these topics and times varied depending on the student's needs as ascertained by the Stanford Diagnostic Pretest and described in the course objectives. (See Appendix A for weekly units, topics, and times.)

Specific objectives which included (1) skills, (2) knowledge, (3) attitudes (where applicable) that the students would obtain or be able to perform upon completion of the course were established at the beginning of the course instruction according to the students' prescription. Also the ideal expected achievement was indicated. (See Appendix A for the specific objectives.)

IV. COLLECTION OF DATA

The data in this study were collected during the 1981-82 academic year. The essential data for the fifty-two full-time freshman day students who comprised the experimental group and the thirty-two full-time freshman day students who made up the comparative group were collected from the (1) Office of the Assistant Dean of the Instructional Materials Center who also conducts the Developmental Studies Department, (2) data obtained from the Nelson-Denny and the Stanford Diagnostic Reading Tests, and (3) data services.

The data obtained from the Office of the Assistant Dean of the Instructional Materials Center and the Developmental Studies Department included: identification numbers of students, date of admission, the composite score on the American College Test, the Chattanooga Placement Test scores, and the pretest score of the students who scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test at the time of admission to the college.

The Stanford Diagnostic Reading Test scores from Forms A and B yielded data pertinent to the performance of the students on the subskills of the test before and after they completed the developmental reading course. These test scores were correlated with Forms D and E of the Nelson-Denny pretest and posttest scores to determine the intragroup relationships between and within the two test measures. Furthermore, the pretest and posttest mean scores of the Stanford Diagnostic and the Nelson-Denny Reading Tests were computed to

compare the differences between the mean scores at the 0.05 level of confidence.

The data obtained from data services were secured in order to compare grade point averages; total hours completed during the fall, winter, and spring quarters; and retention according to race and sex between the two groups of freshman students. These data are significant to the analysis and interpretation of the findings of this study.

V. ANALYSIS AND INTERPRETATION OF DATA

The data collected for this study were analyzed and interpreted according to the t-test comparisons within and between the mean scores of the Stanford Diagnostic and the Nelson-Denny Reading Tests for the students who completed the developmental reading course. Their grade point averages, total hours completed, and retention were compared according to race and sex during the fall, winter and spring quarters with a similar group of students who did not take the course.

The test of significance used to answer the questions presented in Chapter I of this study was t-test for independent variables at the .05 level of confidence. The formula is as follows:[134]

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1+n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

[134] L. R. Gay, Educational Research (Columbus: Charles E. Merrill Publishing Company, 1981), p. 300.

The Pearson Product Moment Correlation Coefficients were used to determine the intragroup relationships within the two test measures. These correlations according to Davis are recorded as .70 very positive, .50 to .60 substantially positive, .30 to .49 moderately positive, .10 to .29 low positive, .01 to .09 negligible, and .00 no corrrelation.[135]

The pretest and posttest scores of the Stanford Diagnostic Reading Test Forms A and B of the students who took the developmental reading course during the 1981-82 fall quarter were correlated after the students completed the course. These correlations were made in order to determine the relationship within the eight subskills which comprise the two test measures.

Additional correlations were made between the Stanford Diagnostic and the Nelson-Denny Reading Test scores. These correlations were made in order to determine intragroup relationship between and within the two test measures.

The findings of the study indicated whether or not the developmental reading course had an impact on retention and achievement of "high-risk" students who were low in reading and study skills, and who completed the developmental reading course in comparison to a similar group of students who did not take the course. These students enrolled instead in courses in their major fields of concentration, mathematics, and psychology.

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[135]James A. Davis, Elementary Survey Analysis (New Jersey: Englewood Cliffs, 1971), p. 49.

VI. SUMMARY

This chapter contains, for the most part, procedures followed in obtaining and treating the data significant in this study. A brief discussion of the selection of students, description of instruments, description of instruction, collection of data, analysis and interpretation of data, and the summary were included to give the reader a vivid picture of the procedures used in conducting this research at Chattanooga State Technical Community College during the 1981-82 academic year.

Chapter IV describes in detail the findings and the results of the statistical analyses.

CHAPTER IV

FINDINGS OF THE STUDY

The findings of this study are presented under the following sections: Section I, T-Test Comparisons for the Pretest and Posttest Means for the Stanford Diagnostic and the Nelson-Denny Tests; Section II, T-Test Comparisons Between the Pretest and Posttest Stanford Diagnostic and the Nelson-Denny Reading Tests According to Race and Sex; Section III, T-Test Comparisons Between Grade Point Averages, Quarter Hours, and Retention According to Race and Sex Between the Two Groups of Students; and Section IV, Correlations of the Stanford Diagnostic and the Nelson-Denny Reading Tests. However, prior to the presentation of these findings, a synopsis of the study is presented.

Synopsis of the Study

The methods of procedures and sources of data were described in Chapter I; nevertheless, a brief review of the process is included. An experimental group and a comparative group of students were identified from the fall 1981 student population. These students were selected because they did not have a composite score of sixteen or above on the American College Test. They failed the Chattanooga Placement Test, and they scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test. As a result, they were advised, but not required, to enroll in the Developmental Studies

Department in developmental reading, mathematics, and psychology. Therefore, this study does not represent the total number of freshman students who enrolled during the fall quarter, but a subset of freshman students who were low in reading and study skills, whose composite scores on the American College Test were below sixteen, and who failed the Chattanooga Placement Test, and who scored below 11.0 in reading comprehension on Form D of the Nelson-Denny Reading Test. After advisement, they enrolled in three sections of the developmental reading course, mathematics, and psychology.

The fifty-two students who enrolled in the course were called the experimental group, and at the beginning of the course instruction, they were administered Form A of the Stanford Diagnostic Reading Test to determine their strengths and weaknesses in reading. After they completed the course, Form B of the test was given to measure their reading growth on the eight subskills. Subsequently, Form E of the Nelson-Denny Reading Test was given to these students in order to measure their reading achievement.

The comparative group was comprised of thirty-two full-time day students whose composite scores on the American College Test were below sixteen, and who failed the Chattanooga Placement Test, and who scored below 11.0 in reading comprehension of Form D of the Nelson-Denny Reading Test. However, these students elected not to take the developmental reading course.

Two groups of students were studied to determine the impact of a developmental reading course on retention and achievement of freshman

students in a two year technical community college. Consequently, an effort was made within the boundaries of this study, to answer the following questions:

1. Did the developmental reading course strengthen the students' reading skills?

2. Did those students who completed the developmental reading course make significant gains on the posttest of the Nelson-Denny Reading Test, have higher grade point averages, complete more hours, and remain in college longer in comparison to a similar group of students who did not take the course?

3. What were the intragroup relationships within the Stanford Diagnostic and the Nelson-Denny Reading Tests?

4. How did the variables race and sex affect the differences between the two groups?

In this investigation, t-test comparisons were made to compare the means within and between the Stanford Diagnostic and the Nelson-Denny Reading Tests, and to compare mean grade point averages, total hours completed, and retention according to race and sex with a comparable group of students, who were full-time day students, who did not take the course. Significance was tested at the .05 level of confidence in order to determine if there were significant differences between the means and to answer questions number 1, 2, and 4 of this study. The formula for the t-test of significance, according to Gay, appears below.[136]

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[136]Gay, op. cit., p. 328.

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

The Pearson Product Moment Correlation Coefficients were used to determine intragroup relationships within the Stanford Diagnostic and the Nelson-Denny Reading Tests and to answer question number 3. According to Davis, these correlations are: .70 to very positive, .50 to .69 substantially positive, .30 to .49 moderately positive, .10 to .29 low positive, .01 to .09 negligible, and .00 no correlation.[137]

Therefore, explanations of the first three sections refer directly back to answer questions 1, 2, and 4. The last section, which is section 4, refers directly back to answer question 3.

I. SECTION I

T-Test Comparisons for the Stanford Diagnostic and the Nelson-Denny Reading Tests

Comparisons of the pretest and posttest mean scores within the experimental group of freshman students on the Stanford Diagnostic Reading Test. When comparing the pretest and posttest mean scores on the eight subskills of the Stanford Diagnostic Reading Test of the students who completed the developmental reading course, the mean for literal comprehension was 2.34. As Table I, Appendix B shows

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[137]Davis, op. cit., p. 49.

the t-value of 1.03 had an associated probability of 0.30. This was not significant at the .05 level. This comparison did not answer Question 1 - Did the developmental reading course strengthen the students' reading skills?

In comparing the pretest and posttest mean scores of the students in inferential comprehension, the mean was 2.36. The t-value was observed at 1.11 with an associated probability of 0.27 is shown in Table I, Appendix B. This was not significant at the .05 level, and the data did not answer Question 1.

Results of the comparison of the pretest and posttest mean scores of the students within the group in word meaning showed the mean as 1.11. The t-value of 0.68 and an associated probability of 0.49 is shown in Table I, Appendix B. This was not significant at the .05 level. This data did not answer Question 1.

Comparison of the pretest and posttest mean scores of the students in phonetic analysis showed a mean of 5.67. The t-value was observed at 2.14 with an associated probability of 0.03 is shown in Table I, Appendix B. This was significant at the .05 level. This finding answered Question 1 that the developmental reading course strengthened the students phonetic analysis skills.

Findings of the comparison of the pretest and posttest mean scores of the students in structural analysis showed a mean of 1.76. The t-value was observed at 0.63 with an associated probability of 0.53. This was not significant at the .05 level. This finding did not answer Question 1 (see Table I, Appendix B).

Results of the comparison of the pretest and posttest mean scores of the students in scanning and skimming showed a mean of -4.05. The t-value was -1.60 with an associated probability of 0.11. This was not significant at the .05 level. Table I, Appendix B shows these findings.

Unlike scanning and skimming, when comparing the pretest and posttest mean scores of the students in fast reading, the mean was 13.11. The t-value of 3.98 had an associated probability of 0.00. This was significant at the .05 level. This finding is also illustrated in Table I, Appendix B, and the data answered Question 1. The students strengthened their fast reading skills.

Comparisons within the experimental group of freshman students on the diagnostic reading test according to race. The data permitted observations of the experimental group of freshman students according to race and their performance within the group on the subskills of the Stanford Diagnostic Reading Test. Comparisons of the pretest and posttest means of the black students in literal comprehension showed a mean of 32.38. The t-value was observed at 1.05 with an associated probability of 0.35. Comparison of the pretest and posttest means of the white students indicated similar results. The mean for the white students in literal comprehension was 18.33. The t-value was 0.55 with an associated probability of 0.58. Neither of the findings, when comparing the means of the black and white students on this subskill, showed any significant differences at the .05 level. Table II,

Appendix B, shows these findings. These findings do not answer Question 1.

When the pretest and posttest means of the black and white students were compared within the experimental population on inferential comprehension, no differences were observed. The mean for the black students was 33.80. The t-value obtained was 0.74 with an associated probability of 0.46 is shown in Table II, Appendix B. This was not significant at the .05 level. Similarly, no significant difference was found between the white students on this subskill. The white students had a mean of 17.00 with a t-value of 0.88 and an associated probability of 0.38. These findings are shown in Table II, Appendix B. They do not answer Question 1.

When comparing the pretest and posttest means of the black and white students within the group on word meaning, no differences in performance were observed. The mean for the black students on word meaning was 49.04. The t-value was exhibited at 1.84 with an associated probability of 0.08. Table II, Appendix B, shows these findings. The white students had a mean of 16.33 with a t-value of 0.80 and an associated probability of 0.42. This was not significant at the .05 level, and did not answer Question 1. (Table II, Appendix B).

Comparison of the pretest and posttest means within the black and white student groups on word parts indicated no differences in performance of the two groups of students. The black students had a mean of 70.00 with a t-value of 1.38 and an associated probability of 0.18. Comparison of the white students indicated similar results.

The mean for the white students in word parts was -22.66. The t-value was 0.61 with an associated probability of 0.54. Neither of the findings showed a significant difference at the .05 level when comparing black and white students on this subskill. Table II, Appendix B, shows these findings. These findings do not answer Question 1.

When the pretest and the posttest mean scores of the black and white students were compared within the experimental group in phonetic analysis, there was a significant difference in performance observed on this subskill. The mean for the black students was 10.09. The t-value was observed at 2.34 with an associated probability of 0.02 is shown in Table II, Appendix B. This was significant at the .05 level. This finding answered Question 1; the black students within the group strengthened their phonetic analysis skills. However, no significant difference was observed within the group of white students on this subskill. The white students had a mean of 28.33 with a t-value of 0.83 and an associated probability of 0.41 is also shown in Table II, Appendix B.

Comparisons of the black and white students' performance in structural analysis showed that the black students had a mean of 85.71. The t-value obtained was 1.58 with an associated probability of 0.12. This was not significant at the .05 level, and the data did not answer Question 1.

When looking at the comparison of the pretest and posttest mean scores of white students on the same subskill, the mean was 28.33. The t-value of 0.98 with an associated probability of 0.98. Neither

of the findings when comparing the black and white students within the group on this subskill showed any significant differences at the .05 level. Table II, Appendix B, shows these findings. However, these findings do not answer Question 1.

When comparing the black students within the group and the white students within the group in scanning and skimming, the black students had a mean of 09.04. The t-value obtained was 0.36 with an associated probability of 0.72. Comparison of the white students' performance on this subskill indicated similar results. The mean for the white students in scanning and skimming was -75.33. The t-value for this data was 1.90 with an associated probability of 0.06. Neither of these findings when comparing the black and white students within the experimental population showed significant differences. Table II, Appendix B, illustrates these findings. These findings did not answer Question 1.

When the black and white students were compared within the group in fast reading, there was a significant difference within both groups. The mean for the black students was 10.42 with an observed t-value of 2.31. The associated probability was 0.03. Comparisons of the white students' performance on this subskill yielded a mean of 15.20. The t-value was 3.18 with an associated probability of 0.003 is shown in Table II, Appendix B. This was significant at the .05 level. These findings answered Question 1. The students who took the developmental reading course strengthened their fast reading skills.

Comparisons within the experimental group of freshman students on the subskills of the Stanford Diagnostic Reading Test according to sex. In evaluating the students' performance on the subskills of the Stanford Diagnostic Reading Test, it was possible, as with the analysis of performance according to race to observe within the group according to sex. When comparing the performance within the male and female students in literal comprehension, the mean for the male students was 04.40. The t-value was 1.10 with an associated probability of 0.92. This was not significant at the .05 level, and the finding did not answer Question 1. In comparing the female students in literal comprehension, the mean was 43.07 with a t-value observed at 2.41 and an associated probability of 0.02. This was significant. Thus, a difference was noted in literal comprehension; female students scored significantly higher than the male students. Table III, Appendix B, lists the results of both comparisons.

When comparing the male students within the group and the female students within the group in inferential reading, no differences in performance were noted. The mean for the male students was 00.80. The t-value was 0.03 with an associated probability of 0.97. The same finding was obtained in inferential reading with the female students. The females had a mean of 47.69 with a t-value of 1.39 and an associated probability of 0.17. No significant differences occurred between the sexes in inferential comprehension. Table III, Appendix B, shows these findings.

Comparisons of the male students and the female students within the group in word meaning showed the mean for the male students as

-23.20. The t-value was obtained at 1.00 with an associated probability of 0.32. This was not significant at the .05 level. Similar findings were noted when comparing the females in word meaning. The females had a mean of 43.07. The t-value was 1.91 with an associated probability of 0.06. In both comparisons, the findings did answer Question 1, which asked if the developmental reading course strengthened the students' reading skills. Table III, Appendix B, shows these results.

Results of comparisons of performance in word parts within the male and female groups are shown in Table III, Appendix B. When looking at word parts for these groups, significant differences were observed within the male group. The male students had a mean of -78.00. The t-value was observed at 2.03 with an associated probability of 0.05. The females had a mean of 10.53. The t-value of 2.57 was observed with an associated probability of 0.01. Both comparisons within the male and female groups resulted in findings which answered Question 1, that the students strengthened their skills in word parts. Table III, Appendix B, shows the comparisons within the group for the male and female students. There was a significant difference at the .05 level within the two groups of students in word parts.

Findings of comparisons of performance in phonetic analysis within the population of male and female students are shown in Table III, Appendix B. No significant difference was noted within the male group. When comparing the male students' performance in phonetic analysis the mean was 14.40. The t-value was observed at 0.39 with

an associated probability of 0.70. The mean for the female students was 10.03. The t-value was observed at 2.64 with an associated probability of 0.01. This was significant at the .05 level and answered Question 1 for the female students strengthened their phonetic analysis skills. Table III, Appendix B, displays the data.

Comparisons of the performance of the male students within the group and the female students within the group in structural analysis showed the mean for the male students as -58.00. The t-value was obtained at 2.26 with an associated probability of 0.02. This was significant at the .05 level and answered Question 1, that the male students strengthened their structural analysis skills. There was no significant finding for the female students in structural analysis. The mean was 92.06 with a t-value of 1.95 and an associated probability of 0.06. Table III, Appendix B, shows both findings.

Findings of comparisons of performance in scanning and skimming within the male and female population are shown in Table III, Appendix B. A significant difference was noted within the group of male students; however, there was no significant difference within the female group. The mean for the male students was -10.76. The t-value was observed at 2.47 with an associated probability of 0.02. This was significant at the .05 level. Within the female group, in scanning and skimming, the mean was 23.84. The t-value was obtained at 1.03 with an associated probability of 0.31, which was not significant at the .05 level. The findings of the females in scanning and

skimming did not show that the developmental reading course strengthened their skills; however, the findings in scanning and skimming for the male students showed that they scored significantly higher than the female students which answered Question 1.

Results of comparisons of performance in fast reading within the male and female groups are illustrated in Table III, Appendix B. When looking at performance on this skill significance differences were observed within the same sex within the two groups. The male students had a mean of 12.72. The t-value was observed at 2.58 with an associated probability of 0.01, which was significant at the .05 level. The female students had a mean of 13.73. The t-value was observed at 2.95 with an associated probability of 0.006. Table III, Appendix B, shows these findings.

Comparisons within the experimental group of freshman students on the Nelson-Denny Reading Test. As with the Stanford Diagnostic Reading Test comparisons, the analyses, also permitted a comparison of the reading skills on the Nelson-Denny Reading Test within the group. The mean for the students in vocabulary was 80.96. The t-value was observed at 3.08 with an associated probability of 0.00. This comparison showed a significant difference at the .05 level.

In comparing the students in comprehension, the mean was 45.21. The t-value was observed at 15.66 with an associated probability of 0.00. This was also a significant difference at the .05 level. Similar findings were noted when comparing the students' performance in total reading. The mean in total reading was -11.92.

The t-value was observed at -6.04 with an associated probability of 0.00. In the three comparisons, the findings answered Question 1, that the students strengthened their reading skills, and it answered part of Question 2, that the students who completed the developmental reading course made significant gains on the posttest of the Nelson-Denny Reading Test Table IV, Appendix B, shows these results.

Comparisons within the experimental group of freshmen students on the Nelson-Denny Reading Test according to race. Analyses within the experimental group indicated several findings on the Nelson-Denny Reading Test. Comparisons of the black students in vocabulary showed a mean of 07.14. The t-value was observed at 0.20 with an associated probability of 0.84. This comparison showed no significant difference at the .05 level. In comparing the white students in vocabulary, the mean was 14.30. The t-value was observed at 4.27 with an associated probability of 0.00. This indicated a significant difference within the black and white students, with the white students scoring significantly higher in vocabulary than the black students. Table V, Appendix B, illustrates these findings.

Results of comparisons of performance of the black and white students within the group in comprehension showed significant differences within both groups. The black students had a mean of 36.28. The t-value was observed at 11.87 with an associated probability of 0.00. The white students had a mean of 51.23. The t-value was observed at 12.18 with an associated probability of 0.00. Thus, in both instances, the findings showed significant differences at the .05 level. Table V, Appendix B, depicts the results.

Findings of comparisons of performance of the black and white students within the group in total reading indicated that the black students had a mean of -14.47. The t-value was observed at -3.87 with an associated probability of 0.000. Similarly, the white students had a mean of -9.96. The t-value was observed at -4.54 with an associated probability of 0.00. These findings were significant at the .05 level with both groups of students scoring significantly higher on the posttest of the Nelson-Denny Reading Test in comprehension and total reading. These findings answered the reading section of Question 2. Findings are shown in Table V, Appendix B.

Comparisons within the experimental group of freshman students on the Nelson-Denny Reading Test according to sex. It was possible to analyze reading skills within the experimental group according to sex. Findings within the male group in vocabulary showed a mean of 14.08. The t-value was observed at 3.69 with an associated probability of 0.00. This was significant at the .05 level. In comparing the pretest and posttest mean scores of the female students within the group in vocabulary, the mean was 3.53. The t-value was observed at 1.07 with an associated probability of 0.29. Thus, this finding indicated no significant differences within the female students.

Comparisons of pretest and posttest mean scores for the male students in comprehension showed a mean of 48.20. The t-value was noted at 11.32 with an associated probability of 0.00 which was significant at the .05 level. Similar findings were noted with the female students in comprehension. The mean for the female students

was 42.07. The t-value was observed at 10.36 with an associated probability of 0.00. Both findings within the male or female group answered Question 2 - Did the students make gains on the post-test of the Nelson-Denny Reading Test?

Results of comparisons of the pretest and posttest means for the male and female students within the group in total reading are shown in Table VI, Appendix B. When looking at the total reading results, there were significant differences at .05 level within both groups. The male students had a mean of 21.67. The t-value was obtained at -4.56 with an associated probability of 0.00. The same finding was observed within the group of female students. The females had a mean of -13.69. The t-value was observed at -4.08 with an associated probability of 0.00. Both comparisons within the male and female students answered the reading section of Question 2. Table VI, Appendix B, shows these results.

II. SECTION II

T-Test Comparisons Between the Pretest and Posttest Stanford Diagnostic and the Nelson-Denny Reading Tests According to Race and Sex

Comparisons within the experimental group of freshman students on the Stanford Diagnostic Reading Test according to race. In addition to analyses of the performance of the students on the eight subskills within the group on the Stanford Diagnostic Reading Test, it was possible to evaluate the performance of the students between the groups according to race. When comparing the black and white

students in literal comprehension, the mean for the black students was 32.28, and the mean for the white students was 18.33. The t-value was observed at 0.30 with an associated probability of 0.75. This was not significant at the .05 level and these findings did not answer Question 1. Table VII, Appendix C, shows these findings.

When the black students were compared with the white students in inferential comprehension, the mean for the black students was 33.80 and the mean for the white students was 17.00. The t-value observed was 0.33 with an associated probability of 0.73. Both comparisons between the black and white student groups resulted in findings which did not answer Question 1 - Did students strengthen their developmental reading skills? Table VII, Appendix C, shows the comparisons within the experimental group according to race.

When comparing the black students with the white students in word meaning, the mean for the black students was 49.04, and the mean for the white students was 16.33. The t-value observed was 1.95 with an associated probability of 0.05. This was significant at the .05 level. This indicated a significant difference between the black and white students, with the black students scoring significantly higher than the white students in word meaning. Comparisons between black and white students in word parts showed no differences. The black students in word parts had a mean of 70.00, and the white students had a mean of -22.66. The t-value was observed at 1.46 with an associated probability of 0.14. Table VII, Appendix C, illustrates both findings.

When looking at phonetic analysis, the black students had a mean of 10.09, while the white students had a mean of 28.33. The t-value was observed at 1.32 with an associated probability of 0.19. The same finding was noted with word parts. No significant differences occurred between the sexes in phonetic analysis. Table VII, Appendix C, shows these findings.

Findings in structural analysis between the black and white students showed that black students had a mean of 85.11 and white students had a mean of -28.33. The t-value was observed at 1.85 with an associated probability of 0.07. Again, no significant differences were noted between the black and white students on this subskill. Table VII, Appendix C, depicts these findings. Similar findings were noted when comparing the differences in performance between black students and white students in scanning and skimming. The mean for black students was 09.04, while the mean for the white students was -75.33. The t-value was observed at 1.80 with a probability of 0.07. No significant difference was found between the black and white students' performance in scanning and skimming. The same finding was noted in fast reading, the black students had a mean of 10.42 and the white students had a mean of 15.20 with a t-value of -0.72 and an associated probability of 0.47. No significant differences occurred between the black and white students except in word meaning. Table VII, Appendix C, shows these findings on the subskills of the Stanford Diagnostic Reading Test according to race.

Comparisons within the experimental group of freshman students on the subskills of the Stanford Diagnostic Reading Test according to sex. As with the comparisons of the black and white students' performance on the subskills of the Stanford Diagnostic Reading Test, analyses also permitted comparisons of the students' performance on the subskills according to sex. The male students in literal comprehension showed a mean of 04.40. The female students' mean was 43.07. The t-value was observed at -0.81 with an associated probability of 0.02. A significant difference occurred between the male and female students on this subskill (see Table VIII, Appendix C). No significant difference was evident within the male and female students in inferential comprehension. The males had a mean of -00.80, and the females had a mean of 47.69 with a t-value of -1.12 and an associated probability of 0.26. Table VIII, Appendix C, illustrates these findings.

Additional analyses within the experimental group indicated several different findings. Comparisons in word meaning showed a mean of -23.20 for the males and 43.07 for the females. The t-value was observed at -2.04 with an associated probability of 0.04. There was a significant difference within the male and female groups on this subskill. Significant differences were also noted when comparing the males and females in word parts. The mean for the males was -78.00, while the mean for the females was 10.53 with a t-value of 0.00. The male students scored higher in word parts than the female students. Table VIII, Appendix C, depicts these findings.

Findings within the group of male and female students in phonetic analysis showed the male students having a mean of 14.40, and the female students having a mean of 10.03. The t-value was observed at -1.62 with an associated probability of 0.01. This indicated a significant difference between the male and female students. Comparisons between the male and female students in structural analysis showed similar results. The male students had a mean of -58.00, and the female students had a mean of 92.00. The t-value was observed at -2.80 and the associated probability was 0.00. This was a significant difference within the male and female groups. Both groups scored higher in structural analysis on the posttest than they did on the pretest but the male students' higher score was significant at the .05 level (see Table VIII, Appendix C).

Results of pretest and posttest comparisons within the male and female student groups on scanning and skimming showed a mean for the male students of -10.76, while the mean for the female students was 23.84. The t-value was observed at -2.66. This was significant at the .05 level. Different findings were noted, however, when comparing the male and female performance on the fast reading subskill. The male students had a mean of 12.72 and the female students had a mean of 13.73. The t-value was observed with a probability of 0.00. No significant differences occurred between the sexes in fast reading. Both groups improved significantly on this subskill. Table VIII, Appendix C, shows this finding.

Comparisons within the experimental group of freshman students on the Nelson-Denny Reading Test according to race. As with the pretest and posttest mean scores for the Stanford Diagnostic Reading Test results, it was possible to compare the pretest and posttest mean scores between the black and white students on the Nelson-Denny Reading Test. When looking at the black students in vocabulary, the mean was 07.14, while the white students had a mean of 14.30. The t-value was observed at -2.78. The differences in the means showed that the white students scored significantly higher than the black students in vocabulary (Table IX, Appendix C).

When the comprehension scores of the pretest and posttest mean scores of the black students were compared within the group with the white students', the mean for the black students was 36.28, and the mean for the white students was 51.23. The t-value was obtained at -2.87 with an associated probability of 0.00. These findings showed significant differences between the black and white students at the .05 level.

Findings of comparisons of the pretest and posttest mean scores between the black and white students showed a mean of -14.47 for the black students in total reading while the mean for the white students was -9.96. The t-value was observed at -1.03 with an associated probability of 0.30. These data were not significant at the .05 level. Table IX, Appendix C, illustrates these results.

Comparisons within the experimental group of freshman students on the Nelson-Denny Reading Test according to sex. Comparisons of

the pretest and posttest means of the male and female students on the Nelson-Denny Reading Test showed the mean in vocabulary for the male students as 14.08 and the mean for the female students was 35.38. The t-value was observed as 3.69 with an associated probability of 0.00. The results indicated that the male students scored significantly higher on the posttest in vocabulary than the female students. Different findings were observed between the pretest and posttest means of the male and female students in comprehension. The mean for the male students was 48.20, and the mean for the female students was 42.07. The t-value was noted as 11.32 with an associated probability of 0.30. Neither of these findings were significant of the .05 level.

Similar findings were observed when comparisons were made between the pretest and posttest means of the male and female students in total reading. The mean for the male students was -9.88, and for the female students the mean was -13.69. The t-value was noted at -4.08 with an associated probability of 0.34. No significant difference was found between male and female students in comprehension or total reading on the Nelson-Denny Reading Test. Table X, Appendix C, illustrates these findings.

III. SECTION III

T-Test Comparisons Between Grade Point Averages, Quarter Hours, and Retention According to Race and Sex

Comparisons of grade point averages, quarter hours, and retention within the experimental group. It was possible to compare grade

point averages, quarter hours, and retention between the fall and winter and the winter and spring quarters within the experimental group. When looking at the comparison of the difference between the fall and winter quarters, the mean was 07.55. The t-value was observed at -2.09 with an associated probability of 0.04. This was significant at the .05 level.

Results of the comparison within the experimental group showed that the mean grade point averages were significantly higher between the fall and winter quarters. During the winter and spring quarters, the mean grade point averages revealed no significant differences. Neither were there significant differences at the .05 level between the number of hours completed during the fall and winter quarters or the winter and spring quarters. The same finding was noted with the number of students who withdrew from the college between the fall and winter and winter and spring quarters within the group. Table XI, Appendix D, shows these findings.

Comparisons of grade point averages, quarter hours, and retention of the experimental group according to race. Analyses of the comparisons of the mean grade point averages for the experimental group showed a significant difference between the winter and spring quarters for the black students within the group. The difference between the means was -01.41. The t-value was obtained at -2.52 with an associated probability of 0.02. This was significant at the .05 level.

The findings indicated that the mean grade point averages for the experimental group of students were significantly higher between the winter and spring quarters for the black students. During the fall and winter quarters, no significant differences in grade point averages were noted between the black and white students at the .05 level. Again, there were no significant differences between the number of hours completed or the number of students who withdrew from the college between the fall and winter and the winter and spring quarters according to race within the group of black and white students. These findings answered Question 2. Table XII, Appendix D, depicts these results.

Comparisons of grade point averages, quarter hours, and retention according to sex. The data permitted observations between the males and females who comprised the experimental group. The mean grade point average for the male students after the fall quarter was 2.40, and the mean grade point average for the female students was 2.72. The t-value was observed at 1.54, with an associated probability of 0.13. This was not significant at the .05 level even though the mean grade point average of the female students was .32 higher than the mean grade point average of the male students.

Different results were obtained when comparing the number of hours completed by the students. The male students had a mean of 25.3, while the mean for the female students was 21.8. The t-value was observed at 3.14, with an associated probability of 0.00. This

was significant at the .05 level. The results indicated significantly that the male students completed 3.3 more hours than the female students. Table XIII, Appendix D, lists these results.

Comparison of the mean grade point average for the male students after the winter quarter was 1.49, and the mean grade point average for the female students was 2.19. As Table XIII, Appendix D, illustrates, the t-value of 0.76 had an associated probability of 0.44. This was not significant at the .05 level even though the mean grade point average for the female students was .70 higher than the mean grade point average for the male students.

When comparing the mean for the number of hours for the male and female students, the results showed the mean for the male students as 20.0, while the mean for the number of hours for the female students was 20.0. The t-value was obtained at 2.12 with an associated probability of 0.06. This was not significant at the .05 level. The hours completed by the male and female students were the same during this quarter.

When the male students were compared with the female students after the spring quarter, the mean grade point average for the male students was 1.61, while the mean grade point average for the female students was 1.65. The t-value was obtained at 0.40 with an associated probability of 0.61. This was not significant at the .05 level. The mean grade point average for the females was .02 higher than the male students at the end of this quarter.

Comparisons for the number of hours completed by the male students showed the mean as 66.0, while the mean for the number of hours for the female students was 11.5. The t-value was obtained at 0.08 with an associated probability of 0.93. This was not significant at the .05 level for the number of hours completed by the male and female students even though the male students carried 54.5 more hours than the female students during the spring quarter.

Comparisons of grade point averages, quarter hours, and retention within the comparative group. As with the experimental group, it was possible to compare grade point averages, quarter hours, and retention of the male and female students who comprised the comparative group after the fall, winter and spring quarters. For example, the male students had a mean grade point average of 1.82, while the mean grade point average for the female students was 2.63. As Table XIV, Appendix E, shows the t-value was observed at 1.43 with an associated probability of 0.15. This was not significant at the .05 level even though there was a .81 higher mean grade point average for the female students.

Different findings were obtained when comparing the number of hours completed by the students. The male students had a mean of 10.9, while the mean for the female students was 14.3. The t-value was observed at 2.62 with an associated probability of 0.01. This

was significant at the .05 level. The results indicated that the females significantly completed 3.4 more hours than the males.

Analyses of the withdrawal rate were made at the end of the fall quarter. The male students showed no withdrawals. Neither were there withdrawals among the female students. These findings answered Question 2. Table XIV, Appendix D, shows these results.

Results of the comparison of the mean grade point average for the male students after the winter quarter was 1.09, while the mean grade point average for the female students was 1.68. The t-value was observed at 0.76 with an associated probability of 0.44. This was not significant at the .05 level even though the mean grade point average for the female students was .59 higher than the mean grade point average of the male students.

Findings related to the withdrawal rate at the end of this quarter showed that four male students had withdrawn from the college. Therefore, at the beginning of the winter quarter, from the comparative group, twelve males and thirteen females reenrolled at the college.

Comparisons of the number of hours completed by the male and female students indicated that the mean for the number of hours for the male students was 55.0, while the mean for the number of hours for the female students was 66.9. The t-value was observed at 0.44. This was not significant at the .05 level even though the mean for

the number of hours for the female students was 11.9 higher than the mean for the number of hours for the male students.

Additional observations were made pertaining to the withdrawal rate among the students at the end of the winter quarter. Four male students withdrew from the college. The female students had five withdrawals. Subsequently, from the comparative group, eight males and eight females reenrolled at the college.

Findings of comparisons of the mean grade point averages for the students after the spring quarter showed that the mean for the male students was 1.26, while the mean grade point average for the female students was 1.99. The t-value was observed at 0.31 with an associated probability of 0.75. This was not significant at the .05 level even though the mean grade point average for the female students was .73 higher than the mean grade point average for the male students.

Comparisons of the number of hours completed by the male and female students during this quarter was analyzed. The mean for the number of hours for the male students was 63.7, while the mean for the number of hours completed by the female students was 10.5. The t-value was observed at -1.48 with an associated probability of 0.16. This was not significant at the .05 level even though the mean for the number of hours was 53.2 higher than the male students.

Observations of withdrawals among the students at the end of the spring quarter revealed that four male students had withdrawn

from the college. The female students had five withdrawals. Table XIV, Appendix D, shows these findings.

Comparisons of grade point averages, quarter hours, and retention between the experimental and the comparative group of the same race. Analyses were made of grade point averages, quarter hours, and retention between the thirty white students who comprised the experimental group and the twenty-two white students who comprised the comparative group. When comparing the mean grade point average of the experimental group with the mean grade point average of the comparative group at the end of the fall quarter, the mean grade point average for the experimental group was 2.72, and the mean grade point average for the comparative group was 2.45. The t-value was observed at 0.68 with an associated probability of 0.49. This was not significant at the .05 level. The mean grade point average for the experimental group was .27 higher than the mean grade point average for the comparative group. Table XV, Appendix D, shows these results.

Results of comparisons for the number of hours completed between the experimental and comparative groups were noted. The mean for the number of hours completed by the experimental group was 25.8, while the mean for the number of hours completed by the comparative group was 2.9. The t-value was observed at 3.06 with an associated probability of 0.004. This was significant at the

0.05 level. Thus, this finding showed that the experimental group had a 12.8 higher mean for the number of hours completed compared to the mean for the number of hours completed by the comparative group.

Findings related to the number of withdrawals at the end of the fall quarter showed that nine students had withdrawn from the college from the experimental group. The comparative group showed no withdrawals. Subsequently, for the winter quarter, twenty-five students from the comparative group reenrolled at the college. At the end of the quarter, comparisons of the mean grade point average for the experimental and the comparative groups showed the mean grade point average for the experimental group as 2.03, and the mean grade point average for the comparative group as 1.59. The t-value was observed at 0.80 with an associated probability of 0.62. This was not significant at the .05 level. The mean grade point average of the experimental group was .44 higher than the mean grade point average for the comparative group. (See Table XV, Appendix D).

Analyses of the comparisons of the number of hours completed by the experimental and the comparative groups showed a mean of 19.8 for the experimental group. The mean for the number of hours completed by the comparative group was 61.1. The t-value was observed at 2.36 with an associated probability of 0.02. This was significant at the .05 level. The comparative group completed 41.3 more hours than the experimental group during this quarter. This finding answered a part of Questions 2 and 4. (See Table XV, Appendix D).

Observations of withdrawals among the students at the end of the winter quarter revealed that four students from the experimental group had withdrawn from the college. The comparative group had five students who had withdrawn from the college. Thus, for the spring quarter, eighteen students from the experimental group and nine from the comparative group reenrolled at the college. At the end of the quarter comparisons of the mean grade point average between the two groups showed that the experimental groups mean grade point average was 2.57, and the mean grade point average for the comparative group was 2.20. The t-value was observed at 0.47 with an associated probability of 0.64. This was not significant at the .05 level even though the mean grade point average was .37 higher than the mean grade point average for the comparative group.

When comparing the number of hours completed by the experimental group with the number of hours completed by the comparative group during this quarter, the results showed that the mean for the number of hours completed by the experimental group was 9.6, and the mean for the number of hours completed by the comparative group was 10.2. The t-value was observed at -0.22 with an associated probability of 0.82. This was not significant at the .05 level. The mean for the number of hours completed by the comparative group of students was 0.6 higher than the mean for the number of hours completed by the experimental group. Table XV, Appendix D, depicts these findings.

Additional observations of withdrawals among the students at the end of the spring quarter revealed that from a total of thirty

experimental students, twenty-two students had withdrawn from the college. Of the comparative group, thirteen students had withdrawn from the college. The experimental group of students maintained a mean grade point average that was consistently higher than the mean grade point average of the comparative group; however, there was no significant difference at the .05 level. Furthermore, there was a higher number of students who withdrew from the college from the experimental group compared to the number of students who withdrew from the comparative group.

Comparisons of grade point averages, quarter hours, and retention between the experimental and the comparative group of students of the same race. As with the comparisons of grade point averages, quarter hours and retention for the thirty white students who comprised the experimental group and the twenty-two white students who comprised the comparative group, it was possible to examine the same variables for the twenty-one black students of the experimental group and the nine black students of the comparative group. As Table XVI, Appendix D, shows the mean grade point average for the experimental group after the fall quarter was 2.33, and the mean grade point average for the comparative group was 1.64. The t-value was observed at 1.60 with an associated probability of 0.11. This was significant at the .05 level. The experimental group had a .69 mean grade point higher than the mean grade point average of the comparative group.

When comparing the mean for the number of hours completed between the experimental and comparative groups the mean for the

number of hours for the experimental group was 20.0, while the mean for the number of hours for the comparative group was 11.7. The t-value was observed at 1.92 with an associated probability of 0.06. This was not significant at the .05 level. No differences were noted in the number of hours completed between the two groups. Table XVI, Appendix D, shows these findings.

When looking at the withdrawals among the students at the end of this quarter, one student withdrew from the college from the experimental group and no students withdrew from the college from the comparative group. Subsequently, at the beginning of the winter quarter, nineteen students from the experimental group and seven from the comparative group reenrolled at the college. At the end of the quarter, comparisons of the mean grade point average for the experimental group was 1.59, and the mean average point for the comparative group was 1.84. The t-value was observed at 1.21 with an associated probability of 0.23. This was not significant at the .05 level. The mean for the comparative group was .20 higher than the mean grade point average for the experimental group. (See Table XVI, Appendix D.)

Comparisons of the mean for the number of hours completed for the experimental group was 20.0 and the mean for the number of hours for the comparative group was 62.8. The t-value was observed at 2.16 with an associated probability of 0.04. This was significant at the .05 level. The comparative group completed 42.8 more hours than the comparative group. Nevertheless, at the end of the quarter

two students had withdrawn from the college from the experimental group, while two students withdrew from the comparative group. Table XVI, Appendix D, shows these results.

Results of observations at the beginning of the spring quarter revealed that fourteen students from the experimental group reenrolled at the college and six from the comparative group. Comparisons of mean grade point averages at the end of the quarter between the two groups showed that the mean grade point average for the experimental group was 3.93, and the mean grade point average for the comparative group was 1.05. The t-value was -1.40 with an associated probability of 0.20. This was not significant at the .05 level. The experimental group had a 2.88 higher mean grade point average than the comparative group. This finding answered part of Question 2. (See Table XVI, Appendix D.)

Analyses of the comparisons for the number of hours completed for the experimental group was 83.3. As Table XVI, Appendix D shows the mean for the number of hours for the comparative group was 65.0. The t-value was observed at 0.68 with an associated probability of 0.53. This was not significant at the .05 level. The experimental group completed 18.3 more hours than the comparative group. Nevertheless, at the end of the spring quarter eleven students had withdrawn from the college from the experimental group. One student withdrew from the comparative group. Subsequently, at the end of the spring quarter from a total of twenty-one experimental students, eighteen had withdrawn from the college. Of the nine students from the

comparative group, three had withdrawn from the college. Therefore, this comparison answers Questions 2 and 4, but there were no significant differences between the means of the grade point averages between the experimental and comparative groups. The experimental students had a higher grade point average than the comparative students during the fall quarter, the time they were enrolled in the developmental reading course, and at the end of the spring quarter. Table XVI, Appendix D, shows these results.

Comparisons of grade point averages, quarter hours, and retention of the experimental and the comparative group of the same sex. Additional analyses were made of grade point averages, quarter hours, and retention between the twenty-six females who comprised the experimental group, and the sixteen females who comprised the comparative group after the fall, winter, and spring quarters. Comparisons of the mean grade point average for the experimental group after the fall quarter was 2.72, and the mean grade point average for the comparative group was 2.63. The t-value was observed at 0.18 with an associated probability of 0.85. This was not significant at the .05 level. The mean grade point average for the experimental group was 1.09 higher than the mean grade point average for the comparative group. (See Table XVII, Appendix D.)

In evaluating the mean for the number of hours completed by the experimental group after the fall quarter, the results showed a mean of 21.8. The mean for the number of hours completed by the comparative group was 14.3. The t-value was observed at 1.82 with

an associated probability of 0.07. This was not significant at the .05 level. The mean for the experimental group for the number of hours completed was 7.5 higher than the mean for the number of hours completed by the comparative group. Table XVII, Appendix D, illustrates these findings.

Observations of the number of withdrawals at the end of the fall quarter revealed that one student from the experimental group withdrew from the college. At the same time, there were three withdrawals from the comparative group. Subsequently, at the beginning of the winter quarter, twenty-two students from the experimental group and thirteen from the comparative group reenrolled at the college. At the beginning of the winter quarter, twenty-five students from the experimental group and thirteen from the comparative group reenrolled at the college. At the end of the quarter, comparisons of the mean grade point averages between the two groups showed that the mean grade point average for the experimental group was 2.19, and the mean grade point average for the comparative group was 1.68. The t-value was observed at 0.89 with an associated probability of 0.37. This was not significant at the .05 level, but the mean grade point average was .51 higher than the mean grade point average for the comparative group. (See Table XVII, Appendix D.)

When comparing the mean for the number of hours completed between the experimental and comparative groups, the mean for the number of hours for the experimental group was 20.0 and the mean for

the number of hours completed by the comparative group was 66.9. The t-value was observed at 2.48 with an associated probability of 0.02. This was significant at the .05 level. The comparative group had a 46.9 higher mean for the number of hours completed than the experimental group. Table XVII, lists these findings.

Additional observations of the withdrawals were noted. At the end of the quarter, five students withdrew from the college from the experimental group. The comparative group had three withdrawals. Subsequently, at the beginning of the spring quarter, sixteen students from the experimental group and eight from the comparative group reenrolled at the college. A total of twenty-four females began the last quarter of the study. Comparisons at the end of the quarter of mean grade point averages between the experimental and comparative groups showed a mean of 1.63 for the experimental group. The mean for the comparative group was 1.99. The t-value was observed at -0.54 with an associated probability of 0.59. This was not significant at the .05 level and the finding answered Questions 2 and 4. Table XVII, lists these results.

When comparing the number of hours completed for the experimental females with the number of hours completed by the comparative females, the mean for the experimental group was 11.5. The mean for the number of hours for the comparative group was 10.5. The t-value was observed at 0.38 with an associated probability of 0.70. This was not significant at the .05 level. Table XVII, Appendix D, depicts this finding.

Observations of withdrawals at the end of the spring quarter revealed that four females from the experimental group withdrew from the college. The comparative group reported five withdrawals. Therefore, at the end of this study, from a total of twenty-six females who comprised the experimental group, twenty withdrew from the college. Of the sixteen female students who comprised the comparative group, eight withdrew from the college.

Thus, these comparisons showed that the mean grade point average for the experimental group was higher than the mean grade point average after the fall and winter quarters, but there were no significant differences at the .05 level. The mean grade point average for the comparative group was higher than the mean grade point average for the experimental group during the spring quarter, but there was no significant differences at the .05 level. These findings answered Questions 2 and 4. Table XVII, shows these results.

Comparisons of grade point averages, quarter hours, and retention of the experimental and the comparative groups of the same sex. In examining the mean grade point averages, quarter hours, and retention for the twenty-five males who comprised the experimental group, and the sixteen males who comprised the comparative, it was possible to observe between the groups. The mean grade point average for the experimental males after the fall quarter was 2.40, and the mean grade point average for the comparative males was 1.82. The t-value was observed at 1.54 with an associated probability of 0.13. This was not significant at the .05 level. The mean grade point average

for the experimental males was .58 higher than, the mean grade point average of the comparative males. These findings answered Question 2 and 4. (See Table XVIII, Appendix D.)

When comparing the mean for the number of hours completed by the experimental and comparative males, the mean for the number of hours completed by the experimental males was 25.3, and the mean for the comparative males was 10.9. The t-value was observed at 3.14 with an associated probability of 0.004. This was significant at the .05 level. The males of the experimental group completed significantly 14.4 more hours than the males of the comparative group. These findings answered Questions 2 and 4. Table XVIII, Appendix D, illustrates these results.

Results of observations of the number of withdrawals at the end of the quarter showed that one student had withdrawn from the experimental group. The comparative group showed no withdrawals during this quarter. Subsequently, at the beginning of the winter quarter, nineteen students from the experimental group and twelve from the comparative group reenrolled at the college. At the end of the quarter, the experimental males had a mean grade point average of 1.49, and the mean grade point average for the comparative males was 1.09. The t-value was observed at 0.76 with an associated probability of 0.04. This was significant at the .05 level. The mean grade point average for the experimental males was significantly higher than the mean grade point averages for the comparative males. These results answered Questions 2 and 4. Table XVIII, Appendix D, shows these findings.

Findings of comparisons for the number of hours completed by the experimental and the comparative males of the same sex are presented in Table XVIII, Appendix D. No significant difference between the male subject groups were noted. When comparing the number of hours completed by the experimental males, the mean was 20.0 and the mean for the comparative males was 53.0. The t-value was observed at 0.44. This was not significant at the .05 level. The comparative males completed 35.0 more hours than the experimental males.

When looking at the number of withdrawals at the end of the quarter, five male students from the experimental group had withdrawn for the college. The comparative group had four withdrawals. Subsequently, at the beginning of the spring quarter, sixteen students from the experimental, and eight from the comparative group reenrolled at the college. A total of twenty-four males began the last quarter of the study. At the end of the quarter, the mean grade point average for the experimental males was 1.61, and the mean for the comparative males was .26. The t-value was observed at 0.44 with an associated probability of 0.69. This was not significant at the .05 level, but the experimental males had a .35 higher mean grade point average than the comparative males. Table XXVIII, Appendix D, illustrates these findings.

Comparisons for the number of hours completed by the experimental males with the number of hours completed by comparative males showed that the mean for the experimental males was 66.0, and the mean for the comparative males was 63.7. The t-value was observed at

0.04 with an associated probability of 0.69. This was not significant at the .05 level, but the comparative males completed 2.3 more hours than experimental males (See Table XVIII, Appendix D.)

Final observations at the end of the spring quarter revealed that eleven males from the experimental group withdrew from college. The comparative group reported four withdrawals. Therefore, at the end of the study, from a total of twenty-five male students who completed the experimental group, twenty withdrew from the college. Of the sixteen male students who comprised the comparative group, eight withdrew from the college.

Thus, this comparison showed that the mean grade point average for the experimental males was higher than the mean grade point average of the comparative males during the three quarters, but these were no significant differences at the .05 level. Furthermore, the experimental males carried more hours than the comparative males during the fall and winter quarters. Nevertheless, the comparative males carried 35.0 more hours than the experimental males during the winter quarters, and there was a significant difference at the .05 level. (See Section III, Tables XI-XVIII, Appendix D.)

IV. SECTION IV

Correlations of the Stanford Diagnostic and the Nelson-Denny Reading Tests

Correlations of the pretest and posttest Stanford Diagnostic Reading scores for the experimental group of freshman students. It

was possible to correlate the pretest and posttest scores of the Stanford Diagnostic Reading Test of the students who enrolled in the developmental reading course. For example, in literal comprehension the black students' correlations were 0.21, and the white students' correlations were 0.29. This showed a low positive correlation between the test measures. In inferential comprehension, the black students' correlations were 0.03, and the white students' correlations were 0.65. The black students' correlations were negligible, while the white students' had substantially positive correlations. These correlations showed no relationship between the test measures. Table XIX, Appendix E, shows these correlations.

In examining the correlations of the black and white students in word meaning, the black students' correlations were 0.43, and the white students' correlations were 0.72. Thus, in word meaning, the black students' correlations were moderately positive, while the white students' correlations were substantially positive. These correlations showed a consistent relationship between the test measures.

Correlations in word parts indicated that the black students' correlations were 0.01, and the white students' correlations were 0.01. Different from the correlations in word meaning, these correlations were negligible. (See Table XIX, Appendix E.)

Correlations of pretest and posttest scores of the black and white students in phonetic analysis showed the correlations of the black students as 0.46 and the white students' correlations as 0.41.

The black students correlations were moderately positive, while the white students' correlations were also moderately positive. Thus, a moderately positive relationship existed between the test measures. Table XIX, Appendix E, illustrates these correlations. However, when correlating the pretest and posttest scores of the black and white students in structural analysis, the black students' correlations were 0.14 and the white students' correlations were 0.50. The black students had a low positive correlation, while the white students had substantially positive correlations. These correlations did not show a consistent relationship between the test measures.

When the black and white students' correlations were observed in scanning and skimming, the black students' correlations were 0.51 and the white students' correlations was 0.26. The black students had a substantially positive correlation and the white students had a low positive correlation. There was virtually no consistent relationship between the test measures. Similar correlations were obtained in fast reading within the group of black and white students. The black students' correlations were 0.002, and the white students' correlations were 0.29. The black students had no correlation in this area, while the white students showed a low positive correlation. There was no relationship between the test measures. Table XIX, Appendix E illustrates these correlations.

Correlations of pretest and posttest Stanford Diagnostic Reading Test scores of the experimental group of freshman students according to sex. When observing the correlations of the pretest and

posttest Stanford Diagnostic Reading Test scores in literal comprehension for the male and female students, the correlations showed virtually no positive relationship between the test measures. The male correlations were 0.25, and the female correlations were -0.38. The male correlations were low positive, while the female correlations were negative moderately positive. Similar correlations were obtained in inferential comprehension. The male correlations were 0.63, and the female correlations were -0.11. The male correlations were substantially positive, while the female correlations were negative low positive. Table XX, Appendix E, shows these correlations.

When the male and female students' correlations were observed in word meaning, the male correlations were 0.80, and the female correlations were 0.30. The male correlations were very positive, while the female correlations were moderately positive. There was no consistent relationship between the test measures. Table XX, Appendix E, depicts these correlations. The same findings were noted with the male and female students' correlations in word parts. The male correlations were 0.43, and the female correlations were -0.32. The male correlations were moderately positive, while the female correlations were negative moderately positive. These correlations showed virtually no relationship between the test scores.

In examining the correlations of the male and female students in phonetic analysis, the male correlations were 0.55, and the female correlations were 0.17. The male correlations were substantially

positive, while the female correlations were low positive. Similar findings were observed with the male and female students' correlations in structural analysis. The male correlations were 0.67, and the female correlations were 0.27. The male correlations were substantially positive, while the female correlations were low positive. These correlations showed no consistent relationship between the test measures. (See Table XX, Appendix E.)

When correlating the male and female students' test scores in scanning and skimming, the male correlations were 0.39, and the female correlations were 0.39. The male and female correlations were moderately positive. Thus, these correlations showed consistent relationship between the test measures. However, in fast reading, the male correlations were 0.32, and the female correlations were -0.08. The male correlations were moderately positive, while the female correlations were negligible. The correlations showed virtually no relationship between the test measures. Table XX, Appendix E, shows these correlations.

Correlations of pretest scores of the Stanford Diagnostic Reading Test with the pretest scores of the Nelson-Denny Reading Test of the experimental group of freshman students according to race. In addition to the correlations of the subskills on the Stanford Diagnostic Reading Test, data were also correlated within the Stanford and Nelson-Denny Reading Tests. Correlations of the pretest Stanford literal comprehension test scores with the pretest Nelson-Denny vocabulary test scores showed that the black students'

correlations were 0.04, and the white students' correlations were 0.17. The black students' correlations were negligible, while the white students' correlations were low positive. These correlations showed that there were no consistent relationships between the two measures.

When correlating the pretest Stanford Diagnostic inferential comprehension test scores with the pretest Nelson-Denny vocabulary test scores, the results indicated that there was no relationship between the two measures. The correlations for the black students' were 0.08 and the white students' correlations were -0.03. The same correlations held true when correlating the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny vocabulary test scores. The black students' correlations were 0.35 and the white students' correlations were -0.10. The black students' correlations were moderately positive, while the white students' correlations were negligible. These correlations answered Question 3 - What were the intragroup correlations between the two test measures? Table XXI, Appendix E, shows these correlations.

Correlating the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny vocabulary test scores, the black students' correlations were 0.35, and the white students' correlations were -0.10. The black students' correlations were moderately positive, while the white students' correlations were negligible.

When correlating the pretest Stanford Diagnostic word parts test scores with the pretest Nelson-Denny vocabulary test scores,

the black students' correlations were -0.05 and the white students' correlations were -0.08. Both correlations within the two test measures showed no relationship. Table XXI, Appendix E, depicts these correlations.

Correlations of the pretest Stanford Diagnostic phonetic analysis test scores examined with the pretest Nelson-Denny vocabulary test scores within the black and white student groups indicated that the black students' correlations were 0.19, and the white students' correlations were -0.02. The black students' correlations showed a low positive correlation and the white students' correlations were negligible. There was no relationship between the two test measures. Correlations of the pretest Stanford Diagnostic structural analysis test scores with the Nelson-Denny vocabulary test scores showed that the black students' correlations were 0.20 and the white students' correlations were -0.02. Neither of these correlations revealed a relationship between the two test measures, in spite of a difference in signs. Table XXI, Appendix E, depicts these correlations.

Similar observations were made when the pretest Stanford Diagnostic scanning and skimming test scores correlated with the pretest Nelson-Denny vocabulary test scores. The results showed that the black students' correlations were -0.03 and the white students' correlations were -0.06. The correlations were negligible. The same correlations were obtained when the pretest Stanford Diagnostic fast reading test scores correlated with the pretest

Nelson-Denny vocabulary test scores showed that the black students' correlations were -0.11, and the white students' correlations were -0.12. These correlations were negligible, and there was no relationship between the two test measures. Table XXI, Appendix E, shows these correlations.

Additional correlations of the pretest Stanford Diagnostic literal comprehension test scores correlated with the pretest Nelson-Denny comprehension test scores showed that the black students' correlations were 0.37, and the white students' correlations were 0.26. The black students' correlations were moderately positive, while the white students' correlations were low positive. These correlations indicated that there was no consistent relationship between the two measures. Correlations of the pretest Stanford Diagnostic inferential comprehension test scores correlated with the pretest Nelson-Denny comprehension test scores indicated that the black students' correlations were 0.34, and the white students' correlations were -0.25. The black students' correlations were moderately positive, while the white students' correlations were low positive. Table XXI, Appendix E, shows these correlations.

When correlating the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny comprehension test scores, the results showed that the black students' correlations were -0.04, and the white students' correlations were -0.26. These negligible correlations indicated that there was virtually no relationship between the two measures. Correlations of the pretest Stanford

Diagnostic word parts test scores with the pretest Nelson-Denny comprehension test scores indicated that the black students' correlations were 0.35, and the white students' correlations were 0.09. The black students' correlations were moderately positive, while the white students' correlations were negligible. Again, these correlations indicated that there was no consistent relationship between the two test measures. Table XXI, Appendix E, shows these correlations.

Additional correlations were made of the pretest Stanford Diagnostic phonetic analysis test scores with the pretest Nelson-Denny comprehension test scores, and the results revealed that the black students' correlations were 0.47, and the white students' correlations were 0.16. The black students' correlations were moderately positive, while the white students had a low positive correlation. When looking at the correlations of the pretest Stanford Diagnostic structural analysis test scores with the pretest Nelson-Denny test scores, there were no differences in the correlations. The black students' correlations were 0.37, and the white students' correlations were -0.02. The black students' correlations were moderately positive, while the white students' correlations were negligible. These correlations showed virtually no relationship between the two measures. (See Table XXI, Appendix E.)

Results of the correlations of the pretest Stanford Diagnostic scanning and skimming test scores correlated with the pretest Nelson-Denny comprehension test scores indicated that the black students'

correlations were 0.08, and the white students' correlations were 0.01. The black students' correlations and the white students' correlations were negligible. These correlations showed virtually no relationship between the two measures. Correlations of the pretest Stanford Diagnostic fast reading test scores with the pretest Nelson-Denny comprehension test scores showed that the black students' correlations were 0.26, and the white students' correlations were 0.12. These correlations were low positive; therefore, there was a low positive relationship between the two measures. Table XXI, Appendix E, depicts these correlations.

Analyses were also made of correlations of the pretest Stanford Diagnostic literal comprehension test scores with the pretest Nelson-Denny total reading test scores within the test measures. The correlations for the black students were 0.26, and the correlations for the white students were 0.25. These correlations showed a low positive relationship within the two measures. Table XXI, Appendix E, shows these correlations.

When correlating the pretest Stanford Diagnostic inferential comprehension test scores with the pretest Nelson-Denny total reading test scores, the results showed that the black students' correlations were 0.26, and the white students' correlations were -0.14. The black students' correlations were low positive, while the white students' correlations were negative low positive. There was no relationship between the two measures. Correlations of the pretest Stanford Diagnostic word meaning test scores with the Nelson-Denny

total reading test scores revealed that the black students' correlations were 0.19 and the white students' correlation were -0.18. The black students' correlations were low positive, while the white students' correlations were negative low positive. There was no relationship between the test measures. Table XXI, Appendix E, depicts these correlations.

Results of the correlations of the pretest Stanford Diagnostic word parts test scores with the pretest Nelson-Denny total reading test scores showed that the black students' correlations were 0.18, and the white students' correlations were -0.18. The 0.18 correlations for the black students indicated that there were low positive correlations between the test measures. The -0.18 correlations for the white students showed that there were negative low positive correlations; however, when looking at the pretest Stanford Diagnostic phonetic analysis test scores which were correlated with the pretest Nelson-Denny total reading test scores, the results indicated that the black students' correlations were 0.43, and the white students' correlations were -0.02. The black students' correlations were negligible, and the white students' correlations were negligible. Table XXI, Appendix E, shows these correlations.

When the pretest Stanford Diagnostic structural analysis test scores were correlated with the pretest Nelson-Denny total reading test scores,the results showed that the black students' correlations were 0.40, and the white students' correlations were 0.07. The black students' correlations were moderately positive, while the

white students' correlation were negligible. These correlations showed no relationship between the two measures. (See Table XXI, Appendix E).

When correlating the pretest Stanford Diagnostic scanning and skimming test scores with the pretest Nelson-Denny total reading test scores, the results showed that the black students' correlations were -0.09, and the white students' correlations were -0.06. The black students' correlations were negligible, and the white students' correlations were negligible. Similar correlations were observed when the pretest Stanford Diagnostic fast reading test scores were correlated with the pretest Nelson-Denny total reading test scores. The results showed that the black students' correlations were -0.10, and the white students' correlations were -0.03. The black students' correlations were negligible, while the white students' correlations were negligible. Consequently, there was virtually to relationship between the two measures. These correlations answered Question 3 - What that there was no intragroup relationship between the Stanford Diagnostic and the Nelson-Denny Reading Tests? Table XXI, Appendix E, shows these correlations.

Correlations of the posttest scores of the Stanford Diagnostic Reading Test with the posttest Nelson-Denny Reading Test of the experimental group of freshman students according to race. The data also permitted correlations of the posttest scores of the Stanford Diagnostic Reading Test with the Nelson-Denny Reading Test within the experimental group of freshman students. Correlations of the literal

comprehension test scores of the Stanford Diagnostic Reading Test with the posttest Nelson-Denny vocabulary test scores, showed that the black students' correlations were 0.51, and the white students' correlations were -0.18. The black students' correlations were substantially positive, while the white students' correlations were negative low positive. As a result, there was virtually no relationship between the two measures. (See Table XXII, Appendix E.)

When the posttest Stanford Diagnostic inferential reading comprehension test scores were correlated with the posttest Nelson-Denny vocabulary test scores, the results showed that the black students' correlations were 0.36, and the white students' correlations were 0.01. The black students' correlations were moderately positive, while the white students' correlations were negligible. Again, there was no consistent relationship between the two measures.

When correlating the posttest Stanford Diagnostic word meaning test scores with the posttest Nelson-Denny vocabulary test scores, the results showed that the black students' correlations were 0.29, and the white students' correlations were 0.29. These correlations showed a low positive correlation between the two measures. However, when the posttest Stanford Diagnostic word parts test scores were correlated with the Nelson-Denny vocabulary test scores, the results showed that the black students' correlations were 0.08, and the white students' correlations were 0.39. The black students' correlations were negligible, while the white students' correlations were moderately positive. Consequently, there was no consistent relationship between the two measures and answered Question 3. (See Table XXII, Appendix E.)

Correlations of the posttest Stanford Diagnostic phonetic analysis test scores with the posttest Nelson-Denny vocabulary test scores showed that the black students' correlations was 0.02, and the white students' correlations were 0.30. The black students' correlations were negligible, while the white students' correlations were moderately positive. There was no consistent relationship between the two measures. (See Table XXII, Appendix E.)

Results of the correlations of the posttest Stanford Diagnostic structural analysis reading test scores with the posttest Nelson-Denny vocabulary test scores showed that the black students' correlations were 0.16, and the white students' correlations were 0.15. Both races of students had low positive correlations. There was a low positive relationship between the two measures.

When correlating the posttest Stanford Diagnostic scanning and skimming test scores with the posttest Nelson-Denny vocabulary test scores, the results showed that the black students' correlations were 0.17, and the white students' correlations were 0.09. The black students had low positive correlations, while the white students' correlations were negligible. Similar results were observed when the posttest Stanford Diagnostic fast reading test scores were correlated with the posttest Nelson-Denny vocabulary test scores. The black students' correlations were -0.22, and the white students' correlations were 0.21. The black students had negative low positive correlations, while the white students' correlations were low positive. These correlations answered Question 3. Table XXII, Appendix E, shows these correlations.

Findings of the correlations of the posttest Stanford Diagnostic literal comprehension reading test scores with the posttest Nelson-Denny comprehension test scores showed that the black students' correlations were -0.05, and the white students' correlations were 0.08. The black students' correlations were negligible, and the white students' correlations were negligible. There was no correlation between the two measures. When correlating the posttest Stanford Diagnostic inferential comprehension test scores with the posttest Nelson-Denny comprehension test scores, the results showed that the black students' correlations were -0.13, and the white students' correlations were 0.15. The black students' correlations were negligible, while the white students' correlations were low positive. There was virtually no relationship between the two measures. Thus, these findings answered Question 3. Table XXII, Appendix E, illustrates these correlations.

Correlations of the posttest Stanford Diagnostic word meaning test scores with the Nelson-Denny comprehension test scores showed that the black students' correlations were -0.27, and the white students' correlations were 0.43. The black students' correlations were negative low positive, while the white students' correlations were moderately positive. Again, there was no relationship between the two measures. Similar correlations were observed when the posttest Stanford Diagnostic word parts test scores were correlated with the posttest Nelson-Denny comprehension test scores. The black students' correlations were -0.14, and the white students' correlations

were 0.19. The black students' correlations were negative, low positive, while the white students' correlations were low positive. There was no relationship between the two measures. (See Table XXII, Appendix E.)

Correlating the posttest Stanford Diagnostic phonetic analysis test scores with the Nelson-Denny comprehension test scores, the results showed that the black students' correlations were -0.27, and the white students' correlations were 0.22. The black students' correlations were negative low positive, while the white students' correlations were low positive. The same findings were observed when the posttest Stanford Diagnostic structural analysis test scores were correlated with the posttest Nelson-Denny reading test scores. The black students' correlations were -0.11, and the white students' correlations were -0.16. Since both groups of students had negative low positive correlations, there was no relationship between the two measures.

Additional correlations were made of the posttest Stanford Diagnostic scanning and skimming test scores with the posttest Nelson-Denny reading comprehension test scores. The correlations for the black students were -0.03, and the white students' correlations were -0.10. The black students' correlations were zero, while the white students' correlations were negative low positive. There was no relationship between the two measures. Similar correlations were noted when the posttest Stanford Diagnostic fast reading test scores were correlated with the posttest Nelson-Denny

comprehension reading test scores. The black students' correlations were -0.18, and the white students' correlations were -0.08. The black students' correlations were negative low positive, while the white students' correlations were negligible. As a result, there was no relationship between the two measures. In these correlations, the findings answered Question 3 which asked what were the intragroup relationships between the Stanford Diagnostic and the Nelson-Denny reading tests? Table XXII, Appendix E, shows these correlations.

Analyses were made of the correlations of the posttest Stanford Diagnostic literal comprehension test scores with the posttest of the Nelson-Denny total reading test scores. The results showed that the black students' correlations were 0.05, and the white students' correlations were -0.12. The black students' correlations were negligible, while the white students' correlations were negative low positive. These correlations showed no relationship between the two measures.

Results of the correlations of the posttest Stanford Diagnostic inferential reading test scores with the posttest Nelson-Denny total reading test scores are illustrated in Table XXIII, Appendix E. When looking at the relationship within these test measures, no relationship was observed. The black students' correlations were 0.02, and the white students' correlations were -0.01. The black students' correlations were negative low positive, while the white students' correlations were negligible. Thus, these correlations answered Question 3. No consistent relationship exists between the two measures. (See Table XXII, Appendix E.)

When the posttest Stanford Diagnostic word meaning test scores were correlated with the posttest Nelson-Denny total reading test scores, the results showed that the black students' correlations were -0.09, and the white students' correlations were 0.14. The black students' correlations were negligible, while the white students' correlations were low positive. There was no consistent relationship between the two measures. (See Table XXII, Appendix E.)

When correlating the posttest Stanford Diagnostic word parts test scores with the posttest Nelson-Denny total reading test scores, the results showed that the black students' correlations were -0.19, and the white students' correlations were -0.05. The black students' correlations were negative low positive, while the white students' correlations were negigible. These correlations showed no relationship between the two measures. Similar correlations were noted when the posttest Stanford Diagnostic phonetic analysis test scores were correlated with the posttest Nelson-Denny total reading test scores, the results showed that the black students' correlations were 0.23, and the white students' correlations were 0.05. The black students' correlations were low positive, while the white students' correlations were negligible. As a result, there was no consistent relationship between the two measures. Table XXII, Appendix E, shows these correlations.

Additional analyses were made of the correlations of the posttest Stanford Diagnostic structural analysis test scores with the posttest Nelson-Denny total reading test scores. The correlations

for the black students were -0.01, and the white students' correlations were 0.03. There were no correlations for the black students, and the white students' correlations were negligible. The same findings were observed when the posttest Stanford Diagnostic scanning and skimming test scores were correlated with the posttest Nelson-Denny total reading test scores. The black students' correlations were -0.05, and the white students' correlations were 0.02. The black and white students' correlations were negligible, and there was, virtually, no relationship between the two measures. Table XXII, Appendix E, depicts these correlations.

Analyses of correlations of the posttest Stanford Diagnostic fast reading test scores with the posttest Nelson-Denny reading test scores are also shown in Table XXII, Appendix E. When observing the correlations of the black and white students, the black students' correlations were -0.25, and the white students' correlations were 0.11. The black and white students' correlations were low positive. Therefore, there was low positive correlations between the test measures within the group of black and white students.

Correlations of pretest and posttest Nelson-Denny Reading Test scores within the experimental group of freshman students according to race. Data also permitted correlations of the pretest and posttest Nelson-Denny reading test scores within the experimental population after the students completed the developmental reading course. The black students' correlations were 0.50, and the white students' correlations were 0.69. These correlations showed a substantially

positive relationship between the two measures. Table XXIII, Appendix E, shows these correlations.

Correlations of the pretest and posttest scores of the black and white students in comprehension showed the correlations of the black students as 0.56, and the white students' correlations as 0.22. The black students' correlations were substantially positive, while the white students' correlations were low positive. As a result, there was no consistent relationship in comprehension between the two measures. Similar correlations were observed in total reading within the group of black and white students. The black students' correlations were 0.14, and the white students' correlations were 0.60. The black students' correlations were low positive, while the white students' correlations were substantially positive. These correlations showed no consistent relationship between the test measures. Table XXIII, Appendix E, shows these correlations.

Correlations of pretest and posttest Nelson-Denny Reading Test scores within the experimental group of freshman students according to sex. Correlations of the pretest and posttest Nelson-Denny reading test scores showed that the male students' correlations in vocabulary were 0.65, while the female correlations were 0.80. The male correlations were substantially positive, and the female correlations were very positive. These correlations showed a positive relationship correlation in vocabulary between the two measures. Table XXIV, Appendix E, shows these correlations.

Correlations of the pretest and posttest scores also provided observations in comprehension and total reading. When correlating the pretest and posttest scores of the students in comprehension, the male students' correlations were 0.31, and the female correlations were 0.36. The male correlations were moderately positive, and the female correlations were also moderately positive. These correlations showed a positive relationship between the two measures. The same findings held true when correlating the pretest and posttest total reading scores. The correlations for the male students were 0.61, and the female correlations were 0.48. The male correlations were substantially positive, and the female correlations were moderately positive. These corrrlations answered Question 3, that there is a relationship between the two measures. Table XXIV, Appendix E, lists these correlations.

Correlations of the pretest Stanford Diagnostic Reading Test scores with the pretest Nelson-Denny Test scores within the experimental group of freshman students according to sex. Additional correlations were made on the Stanford Diagnostic and the Nelson-Denny reading tests within the experimental group. The pretest Stanford Diagnostic literal comprehension test scores correlated with the pretest Nelson-Denny vocabulary test scores showed that the male correlations were 0.07, and the female correlations were 0.53. The male correlations were negligible, while the female correlations were positive. These correlations showed no consistent relationship between the test measures.

In inferential comprehension, the pretest Stanford Diagnostic reading test scores correlated with the pretest Nelson-Denny vocabulary test scores indicated that the male correlations were -0.13, and the female correlations were 0.71. The male correlations were negative low positive, while the female correlations were substantially positive. Similar to the correlations in literal comprehension, these correlations showed virtually no relationship between the test measures. Table XXV, Appendix E, shows these correlations.

When correlating the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny vocabulary test scores, the results showed that there was no consistent relationship between the two measures. The correlations for the male students were 0.05, and the female correlations were 0.55. The male correlations were negative low positive, while the female correlations were negligible. Correlations of the pretest Stanford Diagnostic word parts test scores with the pretest Nelson-Denny vocabulary test scores indicated that the male correlations were -0.11, and the female correlations were 0.20. The male correlations were negative low positive, while the female correlations were low positive. There was no consistent relationship between the test measures. Table XXV, Appendix E, depicts these correlations.

Correlating the pretest Stanford Diagnostic phonetic analysis test scores with the pretest Nelson-Denny vocabulary test scores, the male correlations were -0.03, and the female correlations were 0.39. The male correlations were negligible, while the female correlations were moderately positive.

When correlating the pretest Stanford Diagnostic structural analysis test scores with the pretest Nelson-Denny vocabulary test scores, the male correlations were -0.11, and the female correlations were 0.31. The correlations for males were negligible, while the correlations for females were moderately positive. The correlations within the two measures showed virtually no relationship. Table XXV, Appendix E, shows these correlations.

Correlations of the pretest Stanford Diagnostic scanning and skimming test scores with the pretest Nelson-Denny vocabulary test scores revealed that the male correlations were -0.07, and the female correlations were 0.17. The male correlations were ngeligible, while the female correlations were low positive. There was no relationship between the two measures. Correlations of the pretest Stanford Diagnostic fast reading test scores with the pretest Nelson-Denny vocabulary test scores indicated that the male correlations were -0.18, and the female correlations were 0.26. The male correlations were negative low positive, while the female correlations were low positive. Table XXV, Appendix E, shows these correlations.

Analyses were also made of correlations of the pretest Stanford Diagnostic literal comprehension test scores with the pretest Nelson-Denny comprehension test scores within the experimental group. The correlations for the male students were 0.36, and the female correlations were 0.40. The male and female correlations

were moderately positive. These correlations showed a moderately positive relationship between the two measures. Correlations of the pretest Stanford Diagnostic inferential comprehension test scores with the Nelson-Denny comprehension test scores showed that the male correlations were -0.07, and the female correlations were 0.33. The male correlations were negligible, while the female correlations were moderately positive. Table XXV, Appendix E, depicts these correlations.

When correlating the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny comprehension test scores, the results showed that the male correlations were -0.20, and the female correlations were -0.05. The male correlations were negative low positive, while the female correlations were negligible. Again, there was no consistent relationship between the two measures. Correlations of the pretest Stanford Diagnostic word parts test scores with the pretest Nelson-Denny comprehension test scores showed that the male correlations were 0.28, and the female correlations were 0.24. The male and female correlations were low positive. Thus, there was a low positive relationship between the two measures. These correlations answered Question 3. Table XXV, Appendix E, shows these correlations.

Results of the correlations of the pretest Stanford Diagnostic phonetic analysis test scores with the pretest Nelson-Denny comprehension test scores showed that the male correlations were 0.24, and the female correlations were 0.54. The male correlations were low

positive, while the female correlations were substantially positive. There was no consistent relationship between the two measures. Similar correlations were observed when the pretest Stanford Diagnostic structural analysis test scores were correlated with the pretest Nelson-Denny comprehension test scores. The male correlations were 0.01, and the female correlations were 0.44. The male correlations were low positive, while the female correlations were moderately positive. There was no consistent relationship between the two measures. (See Table XXV, Appendix E.)

When correlating the pretest Stanford Diagnostic scanning and skimming test scores with the pretest Nelson-Denny comprehension test scores, the results revealed that the male correlations were 0.10, and the female correlations were -0.08. The male correlations were negative low positive, while the female correlations were negligible. Different correlations were observed when the pretest Stanford Diagnostic fast reading test scores were correlated with the pretest Nelson-Denny comprehension test scores. The findings showed that the male correlations were 0.24, and the female correlations were 0.17. The male and female correlations were low positive. Thus, these correlations answered Question 3. Table XXV, Appendix E, illustrates these correlations.

When observing the correlations of the pretest Stanford Diagnostic literal comprehension test scores with the pretest Nelson-Denny total reading test scores, the results showed that the male correlations were 0.22, and the female correlations were 0.60. The

male correlations were low positive, while the female correlations were substantially positive. These correlations showed no consistent relationship between the two measures. Similar correlations were observed when the pretest Stanford Diagnostic inferential reading test scores were correlated with the pretest Nelson-Denny total reading test scores. The male correlations were -0.12, and the female correlations were 0.72. The male correlations were negligible, while the female correlations were very positive. These correlations showed no consistent relationship between the two measures. (See Table XXV, Appendix E.)

In examining the correlations of the pretest Stanford Diagnostic word meaning test scores with the pretest Nelson-Denny total reading test scores, the results showed that the male correlations were -0.11, and the female correlations were 0.39. The male correlations were negative low positive, while the female correlations were moderately positive. These correlations showed no relationship between the two measures. Correlations of the pretest Stanford Diagnostic word parts test scores with the pretest Nelson-Denny total reading test scores indicated that the male correlations were 0.06, and the female correlations were 0.27. The male correlations were negligible, while the female correlations were low positive. There was no consistent relationship between the two measures. Table XXV, Appendix E, illustrates these correlations.

Results of the correlations of the pretest Stanford Diagnostic phonetic analysis test scores with the pretest Nelson-Denny total

reading test scores showed that there was no consistent relationship between the two measures. The male correlations were 0.14, and the female correlations were 0.59. The male correlations were low positive, while the female correlations were substantially positive. These correlations showed no consistent relationship between the two measures. Similar correlations were observed when the pretest Stanford Diagnostic structural analysis test scores were correlated with the pretest Nelson-Denny total reading test scores. The male correlations were -0.00, and the female correlations were 0.46. The male correlations were negligible, while the female correlations were moderately positive. There was no consistent relationship between the two measures. Table XXV, Appendix E, depicts these correlations.

When correlating the pretest Stanford Diagnostic scanning and skimming test scores with the pretest Nelson-Denny total reading test scores, the male correlations were -0.01, and the female correlations were 0.09. The male correlations were zero, while the female correlations were negligible. Again, there was no consistent relationship between the two measures. Correlations of the pretest Stanford Diagnostic fast reading test scores with the pretest Nelson-Denny total reading test scores showed that the male correlations were -0.02, and the female correlations were 0.31. The male correlations were negligible while the female correlations were moderately positive. These correlations answered Question 3 that there was no consistent relationship between the two measures. Table XXV, Appendix E, shows these correlations.

Correlations of posttest Stanford Diagnostic reading test scores with the posttest Nelson-Denny reading test scores of the experimental group of freshman students according to sex. In correlating the pretest Stanford Diagnostic reading test scores with the pretest Nelson-Denny reading test scores, it was possible to observe within the group the relationship between the posttest Stanford Diagnostic reading test scores and the posttest Nelson-Denny reading test scores. When correlating the posttest Stanford Diagnostic literal comprehension test scores with the posttest Nelson-Denny vocabulary test scores, the male correlations were 0.10, and the female correlations were 0.36. The male correlations were negligible, while the female correlations were moderately positive. These correlations showed no consistent relationship between the two measures. In inferential comprehension, the correlations of the posttest Stanford Diagnostic reading test scores with the posttest Nelson-Denny vocabulary test scores revealed that the male correlations were 0.09, and the female correlations were 0.32. The male correlations were negligible, while the female correlations were moderately positive. Neither of the correlations in comprehension showed a consistent relationship between the two measures. Thus, in both instances, the correlations answered Question 3, that there was no consistent relationship between the two measures in comprehension. Table XXVI, Appendix E, lists the correlations by subskill and sex.

When correlating the pretest Stanford Diagnostic word meaning test scores with the Nelson-Denny vocabulary test scores, the results showed that the male correlations were 0.44, and the female correlations were 0.31. The male and female correlations were moderately positive. These correlations showed moderately positive relationship between the measures. Thus, these correlations answered Question 3. Table XXVII, Appendix E, shows the correlations between the two measures. Similar correlations were noted when the posttest Stanford Diagnostic word parts test scores were correlated with the posttest Nelson-Denny vocabulary test scores. The male correlations were 0.14, and the female correlations were 0.14. As a result, there was a consistent relationship between the two measures.

Correlations of the posttest Stanford Diagnostic phonetic analysis test scores with the posttest Nelson-Denny vocabulary test scores showed that the male correlations were 0.00, and the female correlations were 0.21. The male correlations were zero, while the female correlations were low positive. These correlations showed no consistent relationship between the two measures. (See Table XXVI, Appendix E.)

Results of the correlations of the posttest Stanford Diagnostic structural analysis test scores with the posttest Nelson-Denny vocabulary test scores showed that the male correlations were -0.02, and the female correlations were 0.14. The male correlations were negligible, while the female correlations were low positive. There was no consistent relationship between the two measures.

When correlating the posttest Stanford Diagnostic scanning and skimming test scores with the posttest Nelson-Denny vocabulary test scores, the results showed that the male correlations were -0.17, and the female correlations were 0.28. The male correlations were negative low positive, while the female correlations were low positive. Correlations of the posttest Stanford Diagnostic fast reading test scores with the posttest Nelson-Denny vocabulary test scores indicated that the male correlations were -0.05, and the female correlations were 0.34. The male correlations were negligible, while the female correlations were moderately positive. Inconsistent relationships were revealed within the correlations of the posttest Stanford Diagnostic reading test scores and the posttest Nelson-Denny vocabulary test scores. Table XXVI, Appendix E, illustrates these correlations.

Additional correlations were made of the posttest Stanford Diagnostic literal comprehension test scores with the posttest Nelson-Denny comprehension test scores. The correlations for the male students were -0.13, and the female correlations were -0.04. The male correlations were negative low positive, while the female correlations were negligible. There was no relationship between the two measures. Similar correlations were noted when the post-test Stanford Diagnostic inferential comprehension test scores were correlated with the posttest Nelson-Denny comprehension test scores. The male correlations were -0.04, and the female correlations were -0.01. The male and female correlations were zero. (See Table XXVI, Appendix E.)

Analyses were made of the correlations of the posttest Stanford Diagnostic word meaning test scores with the posttest Nelson-Denny comprehension test scores. The results showed that the male correlations were 0.08, and the female correlations were -0.06. The male correlations were negligible, while the female correlations were zero. There was no consistent relationship between the two measures.

Results of the correlations of the posttest Stanford Diagnostic word parts test scores with the posttest Nelson-Denny comprehension test scores are shown in Table XXVII, Appendix E. When looking at the relationship within these test measures, no relationship was observed. The male correlations were 0.07, and the female correlations were -0.23. The male correlations were negligible, while the female correlations were negative low positive.

When the posttest Stanford Diagnostic phonetic analysis test scores were correlated with the posttest Nelson-Denny comprehension test scores, the results showed that the male correlations were 0.08, and the female correlations were -0.18. The male correlations were negligible, while the female correlations were negative low positive. Similar correlations were revealed when the posttest Stanford Diagnostic structural analysis test scores were correlated with the posttest Nelson-Denny comprehension test scores. The male correlations were -0.26, and the female correlations were -0.15. The male correlations were low positive, while the female correlations were negative low positive. Table XXVI, Appendix E, shows these correlations.

Findings of the correlations of the posttest Stanford Diagnostic scanning and skimming test scores with the posttest Nelson-Denny comprehension test scores showed that the male correlations were -0.25, and the female correlations were 0.03. The male correlations were negative low positive, while the female correlations were negligible. The same findings were observed when the posttest Stanford Diagnostic fast reading test scores were correlated with the posttest Nelson-Denny comprehension test scores. The male correlations were -0.24, and the female correlations were 0.14. The male correlations were negative low positive, while the female correlations were low positive. Neither of these findings showed a consistent relationship between the two measures. Table XXVI, illustrates these results.

Correlations of the posttest Stanford Diagnostic literal comprehension test scores with the posttest Nelson-Denny total reading test scores showed the male correlations as -0.00, and the female correlations as 0.12. The male correlations were negative low positive, while the female correlations were low positive. There was no consistent relationship between the two measures. The same correlations were noted with the posttest Stanford Diagnostic inferential comprehension test scores and the posttest Nelson-Denny total reading test scores. The male correlations were -0.03, and the female correlations were 0.11. The male correlations were zero, while the female correlations were low positive. Neither of these correlations showed a relationship between the two measures.

Table XXVI, Appendix E, shows these correlations.

Similar observations were made when the posttest Stanford Diagnostic word meaning test scores were correlated with the Nelson-Denny total reading test scores. The male correlations were 0.33, and the female correlations were 0.06. The male correlations were moderately positive, while the female correlations were negligible. There was no consistent relationship between the two measures. Correlations of the posttest Stanford Diagnostic word parts test scores with the posttest Nelson-Denny total reading test scores showed that the male correlations were 0.14, and the female correlations were -0.07. The male correlations were low positive, while the female correlations were zero. Again, there was no consistent relationship between the two measures. (See Table XXVI, Appendix E).

Additional correlations of the posttest Stanford Diagnostic phonetic analysis test scores with the posttest Nelson-Denny total reading test scores, indicated that the male correlations were 0.03, and the female correlations were -0.02. The male correlations were low positive, while the female correlations were zero. There was no consistent relationship between the two measures. The same correlations were obtained when the posttest Stanford Diagnostic structural analysis test scores were correlated with the posttest Nelson-Denny total reading test scores. The male correlations were -0.12, and the female correlations were 0.00. The male correlations were negative low positive, while the female correlations were zero.

These correlations answered Question 3, that there was no consistent relationship between the two measures. Table XXVI, Appendix E, shows these correlations.

When correlating the posttest Stanford Diagnostic scanning and skimming test scores with the posttest Nelson-Denny total reading test scores, the results revealed that the male correlations were -0.23, and the female correlations were 0.10. The male correlations were negative low positive, while the female correlations were low positive. There was no consistent relationship between the two measures. Table XXVI, Appendix E, depicts these correlations. Correlations of the posttest Stanford Diagnostic fast reading test scores with the posttest Nelson-Denny total reading test scores showed that the male correlations were -0.15, and the female correlations were 0.24. The male correlations were negative low positive, while the female correlations were low positive. These correlations showed no consistent relationship between the two measures, and the findings answered Question 3, What was the intragroup relationship between the Stanford Diagnostic and the Nelson-Denny reading tests? Table XXVI, Appendix E, shows these correlations.

V. SUMMARY

Based on the *t*-test comparisons within and between the means of the Stanford Diagnostic and the Nelson-Denny Reading Tests, the intragroup correlations of the Stanford Diagnostic and the

Nelson-Denny Reading Test results for the students who took the developmental reading course, and the comparisons of their grade point averages, number of hours completed, and retention with a comparable group of students who did not take the course, the following answers to the questions pertaining to the impact of a developmental reading course on student retention and achievement were established.

Question 1

Did the developmental reading course strengthen the students' reading skills?

The developmental reading course did strengthen the students' reading skills according to the results from the *t*-test comparisons between the pretest and posttest means on the Stanford Diagnostic and the Nelson-Denny Reading Test at the .05 level of confidence. These comparisons showed improvement in phonetic analysis and fast reading on the Stanford Diagnostic Reading Test. The *t*-test comparison between the means for phonetic analysis was 2.14, and the probability value was 0.03. This comparison indicated that the students performed significantly better on Form B of the posttest of the Stanford Diagnostic Reading Test, on these subskills, within the group, than they did on Form A of the pretest. The *t*-test comparison between the means for fast reading was 3.98, and the probability value was 0.00. This comparison showed that the students performed significantly better on Form B of the posttest of the Stanford Diagnostic Reading Test on this subskill, within the group than they did on Form A of the pretest.

On the Stanford Diagnostic Reading Test results between the groups, the students showed improvement in word meaning. The t-test comparison between the pretest and posttest means for word meaning was 1.95, and the probability value was 0.05. This comparison showed that the students performed significantly better on Form B of the posttest on this subskill than they did on Form A of the pretest.

Question 2

Did the students who completed the developmental reading course make significant gains on the posttest of the Nelson-Denny Reading Test, remain in college longer, and exhibit higher grade point averages in comparison to a similar group of students who did not take the course?

The students made significant gains on Form E of the posttest of the Nelson-Denny Reading Test. The t-test comparisons between the pretest and posttest means with significant difference tested at .05 level of confidence substantiates this finding.

On the Nelson-Denny Reading Test results within the group, the students showed improvement in all the areas: vocabulary, comprehension, and total reading. The t-test comparison between the pretest and posttest means for vocabulary was 3.08, and the probability value was 0.00. This comparison showed that the students performed significantly better on Form E of the posttest on this skill than they did on Form D of the pretest.

In comprehension, the t-test comparison between the pretest and posttest means was 15.66, and the probability value was 0.00. This comparison indicated that the students performed significantly better on Form E of the posttest on this skill than they did on Form D of the pretest.

In total reading, the t-test comparison between the pretest and posttest means was -6.04, and the probability value was 0.00. This comparison revealed that the students performed significantly better on Form E of the posttest on this skill than they did on Form D of the pretest.

On the Nelson-Denny Reading Test results between the groups, the students showed improvement in vocabulary and comprehension. The t-test comparison between the pretest and posttest means for vocabulary was -2.78, and the probability value was 0.00. This comparison indicated that the students performed significantly better on Form E of the posttest on this skill than they did on Form D of the pretest.

The t-test comparison between the pretest and posttest means for comprehension was -1.87, and the probability value was 0.00. This comparison showed that the students performed significantly better on Form E of the posttest on this skill than they did on Form D of the pretest.

The experimental group had a higher number of students who withdrew from the college compared to the withdrawals of the students who did not take the course. However, there was a significant

difference at the .05 level of confidence between the fall and winter grade point averages within the experimental group compared to the grade point averages of the comparative group of students, but there were no significant differences between the grade point averages of the two groups of students at the .05 level of confidence.

Question 3

What were the intragroup relationships between the Stanford Diagnostic and the Nelson-Denny Reading Tests?

According to the Pearson Product Moment Correlation Coefficients, there were no consistent correlations between the Stanford Diagnostic and the Nelson-Denny Reading Tests. Therefore, there was no positive relationship between the two measures.

Question 4

Did race and sex affect the differences between the two groups of students?

Race and sex did affect the differences between the two groups of students; therefore, the following comparisons are pertinent to the results of this study. Black students had a higher grade point average between the winter and spring quarters within their group than the white students; consequently, there was a significant difference at the .05 level of confidence.

From the t-test comparisons between the pretest and posttest means for the Stanford Diagnostic Reading Test, the black students showed improvement in phonetic analysis and fast reading. The white

students showed improvement in fast reading. The t-test comparison between the pretest and posttest means for the black students in phonetic analysis was 2.34, and the probability value was 0.002. This comparison showed that there was a significant difference at the .05 level of confidence. The t-test comparison between the pretest and posttest means of the black students in fast reading was 2.31, and the probability value of t-test was 0.03. This comparison showed that there was a significant difference at the .05 level of confidence.

The t-test comparison between the pretest and the posttest means for the white students on fast reading was 3.18, and the probability value was 0.003. Similarly to the black students, this comparison showed that there was significant difference at the .05 level of confidence. These data showed, however, that the black students made significant gains on one more skill than the white students.

From the t-test comparison between the pretest and posttest means for the Stanford Diagnostic Reading Test, the male students showed a significant difference at the .05 level of confidence on structural analysis. The t-test comparison between the mean was -2.26, and the probability value was 0.03. The female students did not show a significant difference. However, the female students showed a significant difference at the .05 level of confidence on literal comprehension. The t-test comparison between the mean was 2.41, and the probability value was 0.02. The male students did not show a significant difference on this subskill.

From the t-test comparisons between the pretest and posttest means for the Nelson-Denny Reading Test, the white students showed a significant difference at the .05 level of confidence in vocabulary, and the black students did not show a significant difference. The t-test comparison between the mean for vocabulary for the white students was 4.27, and probability value was 0.0002. The black students did not show a significant difference on the subskill.

The rate of attrition was higher among the white students than the black students who took the developmental reading course. Likewise, the number of students withdrawing from the college was higher among the white students who took the course than the black students who did not take the course. Furthermore, there was a higher withdrawal rate among the male students who took the course in comparison to the withdrawals of the male and female students who did not take the course. Nevertheless, these comparisons showed that the white students and the male students showed a significant difference in all areas on the posttest of the Nelson-Denny Reading Test after the course instruction, but there were no significant differences between grade point averages, total hours completed, or retention between the two groups of students after the fall, winter, or spring quarters. Therefore, race and sex did not affect the differences between the two groups of students. The significance of these findings are described in Chapter V, "Summary, Findings, Conclusions, and Recommendations."

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

The developmental reading program was established in the Developmental Studies Department of Chattanooga State Technical Community College during the spring of 1969. It was designed to assist entering freshman students who were low in reading ability to improve their reading and study skills.

At the time this study was conducted, no research had been completed at Chattanooga State Technical Community College pertaining to the effectiveness of such a course. However, a review of the literature showed that earlier studies had been made in colleges and universities to evaluate the effectiveness of reading programs. Most of the studies, however, had been conducted at the end of the course instruction, and standardized test results were utilized to measure achievement. Relatively few studies had been made to determine the impact of a developmental reading course on retention and achievement of freshman students in a two-year technical community college after they had completed three consecutive quarters.

In this investigation, *t*-test comparisons were used to compare gains within and between the Stanford Diagnostic and the Nelson-Denny Reading Test results for the experimental group. Their mean grade point average, total hours completed, and retention according

to race and sex were compared with the comparative group. Significance was tested at the .05 level.

The Pearson Product Moment Correlation Coefficients were used to determine the relationships within the test measures, and between the two groups, where applicable. Relationships were determined from the correlations which are recorded in this study in Chapter IV.

The purposes of the comparisons and correlations were to answer the questions posed in Chapter I of this study which sought (1) to determine if the developmental reading course strengthened the students' reading skills, (2) to determine if the students who took the course made significant gains on the posttest of the Nelson-Denny Reading Test, remained in college longer, and exhibited higher grade point averages compared to the group of students who did not take the course, (3) if there were intragroup of relationship within the Stanford Diagnostic and the Nelson-Denny Reading Tests, and (4) if the variables race and sex affected the differences between the two groups. As a result of the comparisons of this study, the findings are presented below.

II. FINDINGS

The discussions drawn from the findings of this study are presented in six major areas. These areas are as follows: (a) test results, (b) academic achievement, (c) retention, (d) conclusions, (e) recommendations, and (f) implications for further study.

III. TEST RESULTS

Stanford Diagnostic Reading Test Results

The t-test comparisons between the pretest and posttest means for the Stanford Diagnostic Reading Test Results showed gains on specific subskills in reading for the students who completed the developmental reading course. Significance was tested at the .05 level.

A comparison of pretest and posttest means on the Stanford Diagnostic Reading Test revealed gains in phonetic analysis and fast reading within the experimental group. According to race, the black students showed gains in phonetic analysis and fast reading, and the white students showed gains in fast reading. Between the male and female students, the female students showed gains in literal comprehension, word parts, phonetic analysis and fast reading. The male students showed gains in word parts, structural analysis, scanning and skimming and fast reading. From the eight subskills which comprise this test, the black and white students showed gains in three or more areas within the group. Specific findings supporting these results are found in Tables I, II, III, and IV.

There was a significant difference at the .05 level between the pretest and posttest means on the Stanford Diagnostic Reading Test between the black and white students in word meaning. These were significant differences between the male and female students

in word meaning, word parts, structural analysis, and scanning and skimming. Table VII supports these findings.

Nelson-Denny Reading Test Results

The t-test comparisons between the pretest and posttest means for the Nelson-Denny Reading Test showed gains on all the skills in reading for the students who completed the course. Significance was tested at the .05 level. Specific findings supporting these results are found in Table IV.

On the Nelson-Denny Reading Test, a comparison of pretest and posttest means scores showed that the students made gains in all areas: vocabulary, comprehension and total reading. There were significant differences at the .05 level between the means between the black and white students in vocabulary and comprehension. There was no significant difference at the .05 level between the means for these students in comprehension and total reading, but there was a significant difference at the .05 level between the means of the male and female students in vocabulary. There were no significant differences at the .05 level between the means for these students in comprehension and total reading.

The male students showed gains in vocabulary, comprehension, and total reading. However, the female students did not show gains in vocabulary, but they showed gains in comprehension and total reading. Specific findings supporting these results are found in Tables V and VI.

The correlations of the Stanford Diagnostic and the Nelson-Denny Reading Tests showed inconsistencies between the two measures. However, the following results were recorded as indices of significance of this study. The black students' correlations on the subskills of the Stanford Diagnostic Reading Test result were consistently positive compared to low positive, negligible and zero correlations of the white students who took the developmental reading course on the posttest of Form E of the Nelson-Denny Reading Test results. The black students' correlations in comprehension were 0.56, while the white students' correlations were 0.22. The black students' correlations were substantially positive, and the white students' correlations were low positive. Specific findings supporting these results are found in Table XXI.

Correlations of the Stanford Diagnostic and the Nelson-Denny Reading Test Results

The correlations of the Stanford Diagnostic and the Nelson-Denny Reading Test results revealed no positive relationship between the two measures. However, these instruments are used in community colleges to identify and place entering freshman students who are low in reading ability in developmental or remedial reading courses.

Academic Achievement

The experimental group of freshman students who completed the developmental reading course achieved higher grade point averages during the fall and winter quarters within the group, compared to the

grade points averages of the comparative group of students who did not take the course. However, there were no significant differences between the grade point averages of the two groups of students at the .05 level. Specific findings supporting these results are found in Table X.

The black student had a higher grade point average between the winter and spring quarters within the group, and there was a significant difference in their grade point averages at the .05 level during these two quarters. On the other hand, the white students did not show gains in their grade point averages within the group. Nevertheless, there were no significant differences in grade point averages, or retention between the two groups of students according to race and sex during the fall and winter and winter and spring quarters. Specific findings supporting these results are found in Table IX.

Retention

The rate of attrition was higher among the white students than the black students who completed the developmental reading course. Likewise, the number of students withdrawing from the college was higher among the white students who took the course than the black students who did not take the course. Furthermore, there was a higher withdrawal rate among the male students who took the course in comparison to the withdrawals of the male and female students who did not take the course.

However, the fact that community college freshman students who are low in reading ability are typically less academically

inclined than are four year students, plus the cutback in student loans, and the tendency for these students to work part-time, may have affected their high attrition rate. Other interesting aspects of this attrition rate were the decline in their grade point averages after they enrolled in the regular college courses, and many students left the college without officially withdrawing from their classes in the Office of Admissions. Invariably, they just stopped attending the classes.

IV. CONCLUSIONS

This study provided a look at data resulting from the examination of the impact of a developmental reading course on student retention and achievement in a two-year technical community college. A number of conclusions were apparent from the findings:

1. Based on the data in this research, the centering freshman students who took the developmental reading course accelerated their pace in reading. These students improved their reading speed, and they were able to read faster with comprehension on the Nelson-Denny Reading Test.

2. Concentrated teacher guided individualized reading instruction for a relatively short period of time appeared to effect changes in phonetic analysis, and fast reading rather than in literal and inferential comprehension, word meaning and word parts on the Stanford Diagnostic Reading Test.

3. The experimental students improved in several reading and study skills.

4. The developmental reading course did not have an impact on achievement after the students enrolled in the regular college courses.

5. The developmental reading course did not have an impact on retention for the students who completed the course; they withdrew in greater numbers compared to the comparative group of students who did not take the course.

6. The current testing program is questionable since the screening and diagnostic instruments have a low correlation.

V. RECOMMENDATIONS

The findings, and conclusions are basic to the following recommendations:

The developmental reading program should be divided into two sections: Section I should be teacher guided individualized reading instruction for entering freshman students who score 7.0 in reading comprehension on the Nelson-Denny Reading Test at the time of admission to college. This course should be designed so that the instructor teach the students the fundamental reading skills that they did not master during their earlier school years. A thorough review of the testing program needs to be undertaken to determine more appropriate standardized measures to use in screening and diagnosing entering freshman students in community/junior colleges.

Section II should be content oriented with teacher-guided individualized reading instruction in the natural and social sciences for entering freshman students who score 9.0 but below 11.0 in reading

comprehension on the Nelson-Denny Reading Test at the time of admission to college since Chattanooga State Technical Community College specializes in technology. This course should be designed so that the instructor would teach and guide the students reading activities in order to help them transfer the skills that they master into the content areas.

VI. IMPLICATIONS FOR FURTHER STUDY

As a result of the findings of this research, the writer would like to make the following suggestions for further studies:

-- Follow-up study of the freshman students who completed the developmental reading course and withdrew from the college during the 1981-82 academic year to determine the reasons for withdrawals.

-- Follow-up study of the freshman students who completed the developmental reading course during the 1981-82 fall quarter to find out if these students reenrolled at Chattanooga State Technical Community College during the 1982-83, 1983-84 academic years and if they completed their college careers.

It is hoped that this study contributed to the understanding of the importance of teacher guided individualized reading instruction as another possibility for the improvement of student retention and achievement. This study, for the most part, presents some of the negatives, as well as the positive results, encountered when examining test results to determine the impact of a developmental reading course on student retention and achievement.

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APPENDIXES

APPENDIX A

DESCRIPTION OF INSTRUMENTS

DESCRIPTION OF INSTRUMENTS

Subtests of the Stanford Diagnostic Reading Test

The Stanford Diagnostic Reading Test has eight subtests:

Test 1: reading comprehension. This section is designed to measure literal and inferential comprehension by means of short reading passages followed by questions. The passages consist of material drawn from the natural and social sciences, human interest stories, fiction, and poetry. These passages are written at a reading level appropriate for students in grades nine through thirteen. Items one through sixty are included and thirty-five minutes are allocated.

Test 2: word meaning. This portion of the test is designed to measure words that were taken from lists of words most commonly encountered in the high school curriculum. In order to secure these words, the writers secured glossaries from high school teachers of all subjects, which included chemistry, industrial arts, literature, music, mathematics, and home economics. Each item consists of a definition followed by four words, one of which fits the definition. A twelve minute time limit is imposed for this section.

Test 3: word parts. This part of the test measures students' knowledge of word components such as prefixes, suffixes, and word roots. Each word part included in this subtest was selected on the

basis of two criteria: first, the part itself had to occur with sufficient frequency in the English language to be considered a generalizeable component; and second, the word part had to appear in more than one subject area. This section of the test has a twelve minute time limit.

Test 4: phonetic analysis. Phonetic analysis is concerned with the relationships between sounds and letters, phoneme-grapheme relationships. Students are asked to determine particular sounds in words and relate each sound to a common or variant spelling of that sound for each item in this subtest. This section of the test has a twelve minute time limit.

Test 5: structural analysis. Structural analysis has to do with the ability to decode words through the analysis of word parts such as syllables, affixes, and root words. This decoding is a threefold process. First, the word must be divided into sound units; then, each unit must be pronounced; finally, the sound units must be blended together. This test assesses student's ability both to decode structural units and to blend these units into words. The time limit is nine minutes.

Test 6: scanning and skimming. This subtest measures students' ability to scan and skim to increase reading efficiency. Part A of Test 6 presents a set of questions and students are asked to find the answers in the accompanying article, without reading the

article through completely. Hence, this part deals with the skills needed to scan an article or chapter for specific information. Part B requires students to extract both general and specific information about an article in a short period of time. This skimming skill is used in prereading to determine what the material is about or to judge its appropriateness for a specific purpose. Six minutes are allocated for this test.

Test 7: fast reading. This subtest measures students' ability to read easy material quickly with comprehension. This subtest is speeded; therefore, very few students can be expected to finish it within the time limit which is two minutes. Nevertheless, a multiple choice Cloze format is used for this subtest because it enables students to respond in a way that approximates the natural reading process in which the end of a thought or sentence is anticipated. It also allows students to read the passage without having to back track or look ahead to locate answers.

The Nelson-Denny Reading Test

The Nelson-Denny Reading Test has three sections. These sections are rate, vocabulary, and reading comprehension.

Test 1: rate. This section of the test is designed to measure the students' rate of reading on interesting story-type material with a generally simple vocabulary load and the extent to which he understands what he has read at the rate recorded by the test.

Test 2: vocabulary. This portion of the test is designed to measure the general meaning of vocabulary and it is composed of 100 items drawn from the vocabularies of English, science, mathematics, and social sciences. Each item consists of a definition followed by five words; one of which fits the definition. A fifteen minute time limit is imposed in this section.

Test 3: comprehension. This part of the test is designed to measure study-type reading skills. It consists of eight reading passages similar to that found in science and social science textbooks. There are twenty questions, each with five answer choices. The time limit for this section is twenty minutes.

TEXTBOOKS

The textbooks used in this course were SUCCESSFUL READING: KEY TO OUR DYNAMIC SOCIETY, by Maxwell H. Norman and Enid S. Kass Norman and HOW TO STUDY, by Thomas Staton. The contents of the course and textbook assignments were divided into five modules. These modules were as follows:

CONTENT

Module 1 - Pre-Testing

A. Nelson-Denny H. S. and College Test
B. Stanford Diagnostic Reading Test
C. Laboratory Placement Test
D. Informal Inventory

Module II - Study Skills

A. PQRST, SQ4R, OARWET
B. Notetaking
C. Selecting and Evaluating Information
D. Organizing Information
E. Locating Information

Module III - Student Teacher Conferences

A. Pre-Lab
    1. Discuss formal test results
    2. Plan individualized program
B. Post-Lab
    1. Check daily work
    2. Discuss program made

Module IV - Sequential Development of Reading Skills

A. Vocabulary
    1. Basic sight words
    2. Contextual clues
    3. Phonetic analysis
    4. Structural analysis
    5. Dictionary
    6. Technical vocabulary for content areas
B. Comprehension
    1. Literal level
    2. Interpretive level
    3. Critical level
    4. Creative level
C. Rate Flexibility
    1. Previewing
    2. Skimming
    3. Scanning
    4. Study-reading

Module V - Reading in Content Areas

A. Science
B. Social Studies
C. Literature

WEEKLY TOPICS

The contents of the course were further divided into weekly units and topics to help the students successfully read this assignments. These assignments were introduced and explained by the instructor and special assistance was given to the students in these areas on Tuesdays and Thursdays.

The topics and times varied depending on the student's needs as diagnosed by the pretest of the Stanford Diagnostic Reading Test.

Week No. 1 Course Introduction, Diagnostic Testing SR., pp. 1-7.

No. 2 Get your OARWET SR., pp. 11-18, 23

No. 3 Reading to Learn SR., pp. 50-53, 56

No. 4 More the Learn SR., pp. 64-69, 72

No. 5 Taking Test Successfully SR., pp. 106-110, 112 Quiz - Ch. 6 and 9

No. 6 Vocabulary and the Vicious Cycle SR., pp. 78-82, 84

No. 7 Eyes Open, Mind Open SR., pp. 132-135, 138, 145

No. 8 Speed - The Flexibility Factor SR., pp. 24-28, 30

No. 9 Specialized Techniques SR., pp. 36-39, 42-43

No. 10 Effective Semi-reading: Skimming and Scanning, SR., pp. 92-96, 98

No. 11 Stanford Diagnostic Posttest and Student Instructor Conference

SPECIFIC OBJECTIVES

Specific objectives were established according to the needs of the students at the beginning of the course instruction. These objectives were checked off as they were achieved.

The textbook, HOW TO STUDY, provided systematic techniques for teaching study skills. Specific examples were given to explain how to apply specific acronyms, notetaking skills, and how to take tests.

A. Objectives: Study Skills

1. The student will be able to apply the acronyms PQRST, SQ4R, and OARWET to improve his study techniques.

2. The student will have two opportunities to achieve a passing grade on his classnotes which will be checked for accuracy, organization, and clarity.

3. The student will score at least 75 percent on a quiz relating to the principles of exam taking which will include scheduling study time, proper attitude and study procedures to insure complete retention knowledge.

4. The student will tour the library and attend a lecture on how to use the library by one of the staff librarians.

B. Objectives: Vocabulary

1. The student will identify with at least 75 percent accuracy the meanings of the major roots, prefixes, and suffixes.

2. The student will identify with at least 75 percent accuracy the meaning of a word from its contextual clues.

3. The student will write and pronounce a word with 75 percent accuracy from its diacritical marks.

4. The student will identify with 75 percent accuracy which word meaning of several in a dictionary entry pertains to the particular instance he is confronted with.

C. Objectives: Comprehension

1. The student will identify the main idea in seven of ten paragraphs written at the tenth grade level.

2. The student will be able to draw conclusions in seven of ten paragraphs written at the tenth grade level.

3. The student will separate significant facts from unimportant details in seven of ten paragraphs written at the tenth grade level.

4. The student will recognize the major pattern of organization (such as time order, listing, comparison-contrast, and cause and effect) in paragraphs written at the tenth grade level.

5. The student will read critically by distinguishing facts from opinions, recognizing an authority and being aware of the connotation of a word.

6. The student will study at least five patterns of writing that are representative of one of the following areas: Science, Social Studies, or Literature.

Vocabulary development improvement was accomplished through a combination of methods and procedures. This skill was treated as an integral part of the reading process rather than as a separate phase of reading instruction. The textbook, SUCCESSFUL READING: KEY TO OUR DYNAMIC SOCIETY, provided an organized approach for the teaching of vocabulary development. Vocabulary exercises were at the end of each chapter assignment. The student was presented exercises in getting the meaning of words by matching the definitions, syllabication, and the use of the accent mark to identify the syllable that received the most stress.

Vocabulary development was further developed by:

1. Studying words in context to determine their meaning in a particular sentence.

2. Studying the etymology of words, including a study of familiar Greek and Latin roots, prefixes and suffixes in English words.

3. Studying antonyms, homonyms, and synonyms.

4. Studying the commonly used English prefixes and suffixes.

5. Studying contractions and compound words.

6. Practicing in class the correct usage of new words.

7. Studying "vocabulary builders" in workbooks that are designed to increase word power by placing words in new context.

8. Keeping a notebook of terms with definitions.

9. Using the dictionary to get the definition of words.

10. Using syllabication techniques to pronounce words correctly and divide them into syllables.

Exercises were designed to help the student develop independent methods of word attack, analysis, recognition and meaning. Therefore, systematic instruction in word recognition was necessary for the student to improve his method studying words.

Instruction in the basic comprehension skills was achieved by the student participating in activities designed to develop the following skills:

1. Applying the PQRST, SQ4R, and OARWET techniques in reading textbook assignments.

2. Recognizing and remembering details of who, what, when, and where while reading.

3. Detecting implied and inferred meaning.

4. Reading critically and creatively.

5. Skimming the facts, ideas, details, and the general pattern of organization of material.

6. Studying effectively.

7. Locating information and understanding library references, such as an index to periodicals and the card catalog.

8. Reading graphs, charts, and maps.

9. Reading the newspaper quickly and accurately.

10. Analyzing questions presented and deciding which reading skill or skills should be used to answer the questions.

Most of these comprehension skills were measured by the Stanford Diagnostic Reading Test. However, studying and locational skills were not measured by the test. Nevertheless, it is possible instruction in these areas indirectly influenced scores made by students taking the Nelson-Denny Test.

APPENDIX B

STATISTICAL TABLES

TABLE I

t-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES FOR THE STANFORD DIAGNOSTIC READING TEST WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS WHO COMPLETED THE DEVELOPMENTAL READING COURSE DURING THE 1981-82 FALL QUARTER

	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
Mean	2.34							
TCLR - - - - -	1.03							
Probability	(0.30)							
Mean		2.36						
TCIR - - - - - - - - - - -		1.11						
Probability		(0.273)						
Mean			1.11					
TWMR - - - - - - - - - - - - - - - - - -			0.68					
Probability			(0.49)					
Mean				1.55				
TWPR -				0.52				
Probability				(0.601)				
Mean					5.67			
TPAR -					2.14			
Probability					(0.03)*			
Mean						1.76		
TSAR -						0.63		
Probability						(0.53)		
Mean							-4.05	
TSSR -							-1.60	
Probability							(0.11)	
Mean								13.11
TFRR -								3.98
Probability								(0.0002)*

P = Pretest Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts,
T = Posttest Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading

*Indicates the significant difference between the mean scores at the .05 level of confidence.

- - = *t*-value.

TABLE II

T-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES FOR THE STANFORD DIAGNOSTIC READING TEST SCORES WITHIN THE EXPERIMENTAL FRESHMAN STUDENTS ACCORDING TO RACE DURING THE 1981-82 FALL QUARTER

	Race Black								Race White							
	PCLR	PCIR	PWHR	PWPR	PPAR	PSAR	PSSR	PFRR	PCLR	PCIR	PWHR	PWPR	PPAR	PSAR	PSSR	TFRR
Mean	32.39															
TCLR - - - - -	1.05								18.33							
Probability	(0.356)								0.55 (0.5881)							
Mean		33.80														
TCIR - - - - - - - - - -		0.74								17.00						
Probability		(0.4686)								0.88 (0.3879)						
Mean			49.04													
TWHR - - - - - - - - - - - - - - - - -			1.84								16.33					
Probability			(0.0803)								-0.80 (0.4278)					
Mean				70.00												
TWPR -				1.38								-22.66				
Probability				(0.1836)								-0.61 (0.5487)				
Mean					10.09											
TPAR -					2.34								28.33			
Probability					(0.0296)*								0.83 (0.4125)			
Mean						85.71										
TSAR -						1.58								28.33		
Probability						(0.1288)								-0.98 (0.3365)		
Mean							-9.04								-75.33	
TSSR - - - - - - - - - - - - - - - - - - -

TABLE III

T-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES FOR THE STANFORD DIAGNOSTIC READING TEST RESULTS WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX DURING THE 1981-82 FALL QUARTER

	Sex I Males								Sex II Females							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
Mean	4.40															
TCLR - - - - -	1.10															
Probability	(0.9208)															
Mean		0.80														
TCIR - - - - - - - - - -	-0.03															
Probability		(0.9761)														
Mean			-23.20													
TWMR - - - - - - - - - - - - - - - - - -	-1.00															
Probability			(0.3283)													
Mean				-78.00												
TWPR -	-2.03															
Probability				(0.0533)*												
Mean					14.40											
TPAR -	0.39															
Probability					(0.7011)											
Mean						-58.00										
TSAR -	-2.26															
Probability						(0.0332)*										
Mean							-10.76									
TSSR - - - - - - - - - - - - - - - - - - -

TABLE IV

T-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES FOR THE NELSON-DENNY READING TEST RESULTS WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS DURING THE 1981-82 FALL QUARTER

	PNDV	PNDC	PNDT
Mean	80.96		
TNDV	3.08		
Probability	(0.0033)*		
Mean		45.21	
TNDC		15.66	
Probability		(0.0001)*	
Mean			-11.92
TNDT			-6.04
Probability			(0.0001)*

Nelson-Denny Reading Tests

Pretest =	PNDV [Vocabulary]	PNDC [Comprehension]	PNDT [Total Reading]
Posttest =	TNDV	TNDC	TNDT

- - = t-value

Number in ( ) is level of confidence.

Criterion value of P = .05.

*Indicates significant difference at .05 level of confidence.

TABLE V

T-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES ON THE NELSON-DENNY READING TEST RESULTS WITHIN THE EXPERIMENTAL GROUP OF STUDENTS BY RACE DURING THE 1981-82 FALL QUARTER

	Race I Black			Race II White		
	PNDV	PNDC	PNDT	PNDV	PNDC	PNDT
Mean	07.14			14.30		
TNDV - - - - -	0.20			- - 4.27		
Probability	(0.8421)			Probabi (0.0002)*		
Mean		36.28			51.23	
TNDC - - - - - - - - - - - -		11.87		TNDC	12.18	
Probability		(0.0001)*			(0.0001)*	
Mean			14.47			9.96
TNDT - - - - - - - - - - - - - - - - - -			-3.87	TNDT - - - - - - - - - - - - - - -		-4.54
Probability			(0.0010)*			(0.0001)*

Nelson-Denny Reading Tests

Pretest = PNDV [Vocabulary2 Posttest = TNDV

PNDC [Comprehension] TNDC

PNDT [Total Reading] TNDT

- - = t-value.

Number in ( ) is level of confidence. Criterion value of P = .05.

*Indicates significant difference at .05 level of confidence.

TABLE VI

I-TEST COMPARISONS OF PRETEST AND POSTTEST MEAN SCORES ON THE NELSON-DENNY READING TEST RESULTS WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS BY SEX DURING THE 1981-82 FALL QUARTER

	Number 25 Males			Number 26 Females		
	PNDV	PNDC	PNDT	PNDV	PNDC	PMDT
Mean	14.08					
TNDV - - - - -	3.69			3.53		
Probability	(0.0012)*			TNDV - - 1.07		
				(0.2962)		
Mean		-48.20				
TNDC - - - - - - - - - - - -		11.32			42.07	
Probability		(0.0001)*		TNDC - - - - - - -	10.36	
					(0.0001)*	
Mean			21.67			-13.69
TNDT - - - - - - - - - - - - - - - - - -			-4.56			-4.08
Probability			(0.0001)*	TNDT - - - - - - - - - - - - - - -		(0.0004)*

Nelson-Denny Reading Tests

Pretest =	PNDV	PNDC	PNDT
	[Vocabulary]	[Comprehension]	[Total Reading]
Posttest =	TNDV	TNDC	TNDT

- - = t-value.

Number in ( ) is level of confidence. Criterion value of P = .05.

*Indicates significant difference at .05 level of confidence.

APPENDIX C

T-TEST COMPARISONS BETWEEN THE PRETEST AND POSTTEST STANFORD DIAGNOSTIC AND THE NELSON-DENNY READING TESTS ACCORDING TO RACE AND SEX

TABLE VII

T-TEST COMPARISONS WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ON THE STANFORD DIAGNOSTIC READING TEST ACCORDING TO RACE DURING THE 1981-82 FALL QUARTER

	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
Mean	32.38				10.09			
TCLR - - - -	0.30				1.32			
Mean	18.33				28.33			
Probability	(0.75)				(0.19)			
Mean		33.80				85.11		
TCIR - - - - - - - - - -		0.33				-1.85		
Mean		17.00				-28.33		
Probability		(0.73)				(0.007)*		
Mean			49.04				9.04	
TWMR - - - - - - - - - - - - -			1.95				-1.80	
Mean			16.33				-75.33	
Probability			(0.05)*				(0.07)	
Mean				70.00				10.42
TWPR - - - - - - - - - - - - - - - - - -				1.46				-0.72
Mean				-22.26				15.20
Probability				(0.14)				(0.42)

P = Pretest — Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Structural Analysis, Phonetic Analysis, Scanning and Skimming, and Fast Reading.

T = Posttest

- - = t-value.

Number in ( ) is level of confidence.

*Indicates significant difference at the .05 level.

TABLE VIII

T-TEST COMPARISONS FOR THE PRETEST AND POSTTEST STANFORD DIAGNOSTIC READING TEST RESULTS BETWEEN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX AT THE END OF THE 1981-82 FALL QUARTER

	PCLR	PCIR	PWMR	PWPR		PPAR	PSAR	PSSR	PFRR
Mean	4.40					14.40			
TCLR - - - - -	0.44				TPAR -	-1.62			
Mean	43.07					10.03			
Probability	(0.02)*					(0.01)*			
Mean		0.80					-58.00		
TCIR - - - - - - - - -		-1.12			TSAR - - - - - -		-2.80		
Mean		47.69					92.30		
Probability		(0.26)					(0.007)*		
Mean			-23.20					-10.76	
TWMR - - - - - - - - - - - - - -			-2.04		TSSR - - - - - - - - - - - -			-2.66	
Mean			43.07					28.84	
Probability			(0.04)					(0.01)*	
Mean				-78.00					12.72
TWPR -				3.26	TFRR -				0.14
Mean				10.53					13.73
Probability				(0.002)*					(0.00)*

P = Pretest

T = Posttest

Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Structural Analysis, Phonetic Analysis, Scanning and Skimming, and Fast Reading.

Number in ( ) is level of confidence.

- - = t-value.

*Indicates significant difference at .05 level.

TABLE IX

T-TEST COMPARISONS FOR THE PRETEST AND POSTTEST NELSON-DENNY READING TEST RESULTS BETWEEN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO RACE AT THE END OF THE 1981-82 FALL QUARTER

	PNDV	PNDC	PNDT
Mean	07.14		
TNDV - - - - - - - - - -	2.78		
Mean	14.30		
Probability	(0.00)*		
Mean		36.28	
TNDC -		-2.87	
Mean		51.23	
Probability		(0.00)*	
Mean			-14.47
TNDT -			-1.03
Mean			-9.96
Probability			(0.30)

Nelson-Denny Reading Tests

Pretest =	PNDV [Vocabulary]	PNDC [Comprehension]	PNDT [Total Reading]
Posttest =	TNDV	TNDC	TNDT

- - = t-value. ---No significant difference.

Number in ( ) is level of confidence.

Criterion value of P = .05.

*Indicates significant difference at .05 level of confidence.

TABLE X

T-TEST COMPARISONS OF THE PRETEST AND POSTTEST NELSON-DENNY READING TEST SCORES BETWEEN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX AT THE END OF THE 1981-82 FALL QUARTER

	PNDV	PNDC	PNDT
Mean	14.08		
TNDV - - - - - - - - - -	3.69		
Mean	35.38		
Probability	(0.04)*		
Mean		48.20	
TNDC -		11.32	
Mean		42.07	
Probability		(0.30)	
Mean			-9.88
TNDT			-4.08
Mean			13.69
Probability			(0.34)

Nelson-Denny Reading Tests

Pretest =	PNDV [Vocabulary]	PNDC [Comprehension]	PNDT [Total Reading]
Posttest =	TNDV	TNDC	TNDT

- - = t-value. ---No significant difference.

Number in ( ) is level of confidence.

Criterion value of P = .05.

*Indicates significant difference at .05 level of confidence.

TABLE XI

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS WHO COMPLETED THE DEVELOPMENTAL READING COURSE DURING THE 1981-82 ACADEMIC YEAR

Quarter	No.	GPA Mean Difference	T	Prob. of T	Hours Mean Difference	T	Probability of T	Attrition
Fall	45	.075517	-2.09	0.0420*	-19.75	-0.41	0.6820	12
vs								
Winter	40							
Winter	33	-0.49060	-0.92	0.3639	-13.333	-1.73	0.1107	7
vs								
Spring	12							21

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XII

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS WHO COMPLETED THE DEVELOPMENTAL READING COURSE ACCORDING TO RACE DURING THE 1981-82 ACADEMIC YEAR

Quarter	Race I Black	GPA Mean Difference	T	Prob. of T	Hours of Difference	T	Probability of T	Attrition
Fall	19	-9.21	-1.85	0.0801	-027.7	-0.03	0.9723	2
vs Winter	18							1
Winter	14	-1.41	-2.52	0.024*	-066.	-0.17	0.878	4
vs Spring	3							11
								18

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

APPENDIX D

T-TEST COMPARISONS BETWEEN GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION ACCORDING TO RACE AND SEX

TABLE XIII

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX DURING THE 1981-82 ACADEMIC YEAR

Quarter	No.	GPA Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Males						
Fall	25 24	2.40	1.54	0.13	25.3	1
Winter	22 19	1.49	0.76	0.44	20.0	2 3
Spring	16 5	1.61	0.40	0.61	66.0	3 11
Females						
Fall	26 25	2.72	3.14	0.04	21.8	1
Winter	22 20	2.19	2.12	0.06	20.0	3 2
Spring	16 6	1.65	0.08	0.93	11.5	4 11

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XIV

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE COMPARATIVE GROUP OF FRESHMAN STUDENTS ACCORDING TO RACE DURING THE 1981-82 ACADEMIC YEAR

Quarter	Race I No.	Grade Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Males						
Fall	16 16	1.82	1.45	0.15	10.9	
Winter	12 12	1.09	0.76	0.44	55.0	4
Spring	8 8	1.26	0.31	0.75	63.7	4/8
Females	Race II					
Fall	16 16	2.63	2.62	0.01*	14.3	
Winter	13 13	1.68	1.70	0.99	66.9	3
Spring	8 8	1.99	-1.48	0.16	10.5	5/8

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XV

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE WHITE STUDENTS WHO COMPRISED THE EXPERIMENTAL AND COMPARATIVE GROUPS DURING THE 1981-82 ACADEMIC YEAR

Quarter	Race II No.	GPA Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Experimental Group--Males						
Fall	30 29	2.72	0.68	0.49	25.8	1
Winter	25 18	2.03	0.80	0.42	19.8	4
Spring	18 8	2.57	0.47	0.64	9.6	7 10
Comparative Group--Females						
Fall	22 22	2.45	3.06	0.004*	12.9	
Winter	17 17	1.59	2.34	0.02	61.1	5
Spring	9 9	2.20	-0.22	0.82	10.2	8 13

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XVI

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE BLACK STUDENTS WHO COMPRISED THE EXPERIMENTAL AND COMPARATIVE GROUPS DURING THE 1981-82 ACADEMIC YEAR

Quarter	Race I No.	GPA Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Group I--Experimental Group						
Fall	21 20	2.33	1.60	0.11	20.0	1
Winter	19 18	1.59	1.21	0.23	20.0	1 1
Spring	14 3	3.93	-1.40	0.20	83.3	4 11
Group II--Comparative Group						
Fall	9 9	1.64	1.92	0.06	11.7	0
Winter	7 7	1.84	2.16	0.04	62.8	2
Spring	6 6	1.05	0.68	0.52	65.0	1 3

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XVII

I-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE FEMALE STUDENTS WHO COMPRISED THE EXPERIMENTAL AND COMPARATIVE GROUPS DURING THE 1981-82 ACADEMIC YEAR

Quarter	Sex II No.	GPA Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Group I--Females--Experimental						
Fall	26 25	2.72	0.85	0.18	21.8	1
Winter	22 20	2.19	0.89	0.37	20.0	3 2
Spring	16 16	1.63	0.54	0.59	11.5	4 10
Group II--Females--Comparative Group						
Fall	16 16	2.63	1.82	0.07	14.3	0
Winter	13	1.68	2.48	0.02	66.9	3
Spring	8	1.99	0.38	0.70	10.5	5 8

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

TABLE XVIII

T-TEST COMPARISONS OF GRADE POINT AVERAGES, QUARTER HOURS, AND RETENTION FOR THE MALE STUDENTS WHO COMPRISED THE EXPERIMENTAL AND COMPARATIVE GROUPS DURING THE 1981-82 ACADEMIC YEAR

Quarter	Sex I No.	GPA Mean Difference	t-Value	Prob. of T	Hours Mean Difference	Attrition
Group I--Males--Experimental						
Fall	25 24	2.40	1.54	0.13	25.3	1
Winter	22 19	1.49	0.76	0.44	20.0	2 3
Spring	16 5	1.61	0.40	0.69	66.0	3 11
Group II--Males--Comparative Group						
Fall	16 16	1.82	3.14	0.004	10.9	0
Winter	12 12	1.09	2.12	0.04*	55.0	4
Spring	8 8	1.26	0.08	0.93	63.7	4/9

Criterion value is P = .05.

*Indicates significant difference at the .05 level of confidence.

APPENDIX E

CORRELATIONS OF THE STANDARD DIAGNOSTIC AND THE NELSON-DENNY READING TESTS

TABLE XIX

CORRELATION OF PRETEST AND POSTTEST STANFORD DIAGNOSTIC READING TEST SCORES WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS WHO ENROLLED IN THE DEVELOPMENTAL READING COURSE DURING THE 1981-82 FALL QUARTER

	Experimental Group Race I Black								Experimental Group Race II White							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
TCLR	0.21								0.29							
TCIR		0.03								0.65						
TWMR			0.43								0.72					
TWPR				0.01								0.01				
TPAR					0.46								0.41			
TSAR						0.14								0.50		
TSSR							0.51								0.26	
TFRR								0.002								0.29

P = Pretest

T = Posttest

Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

TABLE XX

CORRELATION OF PRETEST AND POSTTEST STANFORD DIAGNOSTIC READING TEST RESULTS OF THE EXPERIMENTAL GROUP OF STUDENTS DURING THE 1981-82 FALL QUARTER

	Experimental Group Sex I Males							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
TCLR	0.25							
TCIR		0.63						
TWMR			0.80					
TWPR				0.45				
TPAR					0.55			
TSAR						0.67		
TSSR							0.39	
TFRR								0.32

	Experimental Group Sex II Females							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
TCLR	0.38							
TCIR		0.11						
TWMR			0.30					
TWPR				-0.32				
TPAR					0.17			
TSAR						0.27		
TSSR							0.39	
TFRR								-0.08

P = Pretest

T = Posttest

Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

TABLE XXI

CORRELATION OF PRETEST STANFORD DIAGNOSTIC READING TEST SCORES WITH THE PRETEST NELSON-DENNY READING TEST SCORES WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO RACE DURING THE 1981-82 FALL QUARTER

	Experimental Group Race I								Experimental Group Race II							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
PNDV	0.04	0.08	0.35	-0.05	0.19	0.29	0.03	-0.11	0.17	-0.03	-0.10	-0.08	-0.02	-0.02	-0.06	-0.12
PNDC	0.37	0.34	-0.04	0.35	0.47	0.37	0.08	0.26	0.26	-0.25	-0.26	0.09	0.16	-0.02	0.01	0.12
PNDT	0.26	0.26	0.19	0.18	0.43	0.40	0.09	0.10	0.25	-0.14	-0.18	-0.18	-0.00	0.07	-0.06	-0.03

Pretest = PNDV [Vocabulary], PNDC [Comprehension], PNDT [Total Reading]
Posttest = TNDV, TNDC, TNDT

Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

TABLE XXII

CORRELATION OF POSTTEST STANFORD DIAGNOSTIC READING TEST SCORES WITH THE POSTTEST NELSON-DENNY READING TEST SCORES WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO RACE DURING THE 1981-82 FALL QUARTER

	Experimental Group Number 21 Race I									Experimental Group Number 30 Race II							
	TCLR	TCIR	TWMR	TWPR	TPAR	TSAR	TSSR	TFRR		TCLR	TCIR	TWMR	TWPR	TPAR	TSAR	TSSR	TFRR
TNDV	0.51	0.36	0.29	0.08	0.02	0.16	0.17	-0.22	TNDV	-0.18	0.01	0.29	0.39	0.30	0.15	0.09	0.21
TNDC	-0.05	-0.13	-0.27	-0.14	-0.27	-0.11	-0.03	-0.18	TNDC	0.08	0.15	0.45	0.19	0.22	-0.16	-0.10	-0.08
TNDT	0.05	0.02	-0.09	-0.19	0.23	-0.01	-0.05	-0.25	TNDT	-0.12	-0.01	0.14	-0.05	0.05	0.03	0.02	0.11

Pretest = PNDV [Vocabulary] PNDC [Comprehension] PNDT [Total Reading]
Posttest = TNDV TNDC TNDT

Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

TABLE XXIII

CORRELATION OF PRETEST AND POSTTEST NELSON-DENNY READING TEST SCORES WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO RACE DURING THE 1981-82 FALL QUARTER

Experimental Group Race I Black				Experimental Group Race II White		
	PNDV	PNDC	PDNT	PNDV	PNDC	PDNT
TNDV	0.50			0.69		
TNDC		0.56			0.22	
TNDT			0.14			0.60

Pretest = PNDV [Vocabulary], PNDC [Comprehension], PNDT [Total Reading]
Posttest = TNDV, TNDC, TNDT

TABLE XXIV

CORRELATION OF PRETEST AND POSTTEST NELSON-DENNY READING TEST SCORES WITHIN THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX DURING THE 1981-82 FALL QUARTER

	Experimental Group Sex I Males			Experimental Group Sex II Females		
	PNDV	PNDC	PDNT	PNDV	PNDC	PDNT
TNDV	0.65			0.80		
TNDC	0.31			0.36		
TNDT	0.61			0.48		

Pretest = PNDV [Vocabulary], PNDC [Comprehension], PNDT [Total Reading]
Posttest = TNDV, TNDC, TNDT

TABLE XXV

CORRELATION OF PRETEST STANFORD DIAGNOSTIC READING TEST WITH THE PRETEST NELSON-DENNY READING TEST RESULTS OF EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX DURING THE 1981-82 FALL QUARTER

	Experimental Group Sex I Males									Experimental Group Sex II Females							
	PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR		PCLR	PCIR	PWMR	PWPR	PPAR	PSAR	PSSR	PFRR
PNDV	0.07	-0.13	-0.05	-0.11	-0.03	-0.11	-0.071	-0.18	PNDV	0.53	0.71	0.55	0.20	0.39	0.31	0.17	0.26
PNDC	0.36	-0.07	-0.20	0.28	0.24	0.01	0.10	0.24	PNDC	0.40	0.33	-0.05	0.24	0.54	0.44	-0.08	0.17
PNDT	0.22	-0.12	-0.11	0.06	0.14	-0.00	-0.01	-0.02	PNDT	0.60	0.72	0.39	0.27	0.59	0.46	0.09	0.31

Pretest = PNDV [Vocabulary] PNDC [Comprehension] PNDT [Total Reading]
Posttest = TNDV TNDC TNDT

P = Pretest Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

TABLE XXVI

CORRELATION OF POSTTEST STANFORD DIAGNOSTIC READING TEST RESULTS WITH THE POSTTEST NELSON-DENNY READING TEST RESULTS FOR THE EXPERIMENTAL GROUP OF FRESHMAN STUDENTS ACCORDING TO SEX DURING THE 1981-82 FALL QUARTER

	Experimental Group Sex I Males									Experimental Group Sex II Females							
	TCLR	TCIR	TWMR	TWPR	TPAR	TSAR	TSSR	TFRR		TCLR	TCIR	TWMR	TWPR	TPAR	TSAR	TSSR	TFRR
TNDV	0.10	0.09	0.44	0.14	0.00	-0.02	-0.17	-0.05	TNDV	0.36	0.32	0.31	0.14	0.21	0.14	0.28	0.34
TNDC	-0.13	-0.04	0.08	0.071	0.08	0.26	-0.25	-0.24	TNDC	0.04	-0.01	-0.06	-0.23	-0.18	-0.15	0.03	0.14
TNDT	0.00	-0.03	0.33	0.14	0.03	-0.12	-0.23	-0.15	TNDT	0.12	0.11	0.06	-0.07	-0.02	0.00	0.10	0.24

Pretest = PNDV [Vocabulary] PNDC [Comprehension] PNDT [Total Reading]
Posttest = TNDV TNDC TNDT

T = Posttest — Literal Comprehension, Inferential Comprehension, Word Meaning, Word Parts, Phonetic Analysis, Structural Analysis, Scanning and Skimming, and Fast Reading.

VITA

During the summer of 1980, Charlotte Stanson Garth requested a study leave of absence from the Chattanooga Board of Education from her assignment as principal of Orchard Knob Elementary School to teach English and reading part-time at Chattanooga State Technical Community College. The leave request was granted, and she enrolled in The University of Tennessee, Knoxville in Knoxville, Tennessee, and completed the residency requirements for the doctoral degree in the Department of Education, with a major in Curriculum and Instruction.

In 1954, she graduated from Spelman College, Atlanta, Georgia with a Bachelor of Arts degree. She received the Master of Arts degree from Atlanta University in 1959. In 1962, she was the first black student to be admitted to The University of Chattanooga which is now The University of Tennessee at Chattanooga and in 1965, she received a NDEA grant to study English, reading and Children's Literature at Illinois State University in Normal, Illinois.

She has been employed as an elementary teacher by the Rome City schools and in the Chattanooga Public Schools. She has also served as a Language Arts Consultant for the Tuscumbia Public Schools and The Mississippi Separate School District. She has been a Mathematics Facilitator, Program Director, and a Reading Resource Teacher.

In 1972, she co-authored "The Continuous Progress Reading Curriculum," a reading guide that was used in the Chattanooga Public Schools. During the past years, she has been a member of a number of

professional organizations. These include Pi Lambda Theta National Honor Society, The International Reading Association, Women in Higher Education in Tennessee, Phi Delta Kappa Professional Fraternity in Education, and Delta Sigma Theta Sorority. She has been active in civic organizations. She served as Secretary for the Board of Directors of the Boys' Club of Chattanooga, Chairperson of the Mayor's Human Relations Council for the City of Chattanooga, Minority Representative for the Chattanooga Area Regional Council of Governments, President of the Chattanooga Chapter of Jack and Jill of America, Inc., and she was listed in the 1979 edition of Personalities of the South.

She married her college sweetheart, Arlyce J. Barth, Ed. D., and they have two daughters: Chloē LāJune and Arlycia Jāyn.