

To the Graduate Council:

I am submitting herewith a dissertation written by Colleta Durham Grindstaff entitled "Reading Improvement, College Grades, and Attrition." 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.

J. Estill Alexander
J. Estill Alexander
Major Professor

We have read this dissertation
and recommend its acceptance:

C. Glennon Rowell

Lester W. King

Marilyn H. Karsenbrock

Accepted for the Council:

C. W. Mink
Associate Vice Chancellor and
Dean of The Graduate School

READING IMPROVEMENT, COLLEGE GRADES,
AND ATTRITION

A Dissertation
Presented for the
Doctor of Education
Degree

The University of Tennessee, Knoxville

Colleta Durham Grindstaff

August 1991

ACKNOWLEDGEMENTS

The author wishes to express grateful appreciation to her dissertation committee, Drs. Alexander, Karrenbrock, Knight and Rowell, who have spent hours of dedicated effort in the critiquing of this manuscript. The humanistic direction provided by her committee members in the guidance of this study has been both an inspiration and comfort to the author.

The Chairman of her committee, Dr. J. Estill Alexander, Director of the Reading Center and the author's major professor, provided the author with invaluable insight and guidance by helping her to understand and meet the expectations of the dissertation committee. To Dr. Alexander the author would like to express a special thanks.

The author would also like to give deserved recognition to the reading faculty at Morehead State University who have taught in the developmental reading program. Their untiring efforts have, over the years, kept the program vital and meaningful in the eyes of the students. Dr. William Hampton, who founded the Developmental Reading Program, deserves posthumous recognition because of his pervasive influence in establishing the humanistic philosophy of the program. Dr. Hampton established himself as a role model, counselor, and friend to the underprepared student. He never believed, as so many do, that the mark of quality in a college professor

was the amount of distance one was able to put between himself and a freshman.

The author wishes to thank Andrea Cornett of the Office of Computing Services at MSU who set up the author's data file on the 1984 freshmen and Gene Ranvier, Registrar, and his staff for the many computer printouts which they provided the author. The author also wishes to express special gratitude and recognition to her friends at M.S.U. for their encouragement and moral support. Their faith and belief in her during the long course of this endeavor helped keep the author on track when self-discipline was weakened by exhaustion. A debt of gratitude is also due Virginia Key who spent one whole intersession helping the author pull the high school transcripts which were on microfilm. Her undaunted good spirits in the face of adversity were quite an inspiration to the author. The author wishes to thank Gordon Nolen for taking the time to introduce the author to Minitab and also to help clarify some of the statistics used in this study. The author is appreciative of Lloyd Jaisingh's contribution in writing and running the computer program which was used to generate the matched pairs. The manuscript could not have been completed without the generosity of Robert Weakley, the author's son-in-law, who provided the Macintosh computer used in its preparation. A special thanks to him.

Finally , the author wishes to express appreciation to her daughters and parents for their moral support and encouragement. To her daughters, whose own professional attainments have been an inspiration, the author wishes to express love and gratitude. To her mother who always believed that the author had a mind worth educating, and to her father, who was not certain if the author's education were an investment or an indulgence but nonetheless cheerfully paid the bills, the author gives a special salute. Without their support, the author could not have completed this work or have been in the position to even begin it.

ABSTRACT

The purpose of this study was to determine if a college level developmental reading class would help the academically underprepared student to be more successful in college as evidenced by improved cumulative G.P.A. scores and/or greater persistence in completing their program.

The students who completed ED.EL. 110, Developmental Reading were the experimental group and the students who did not enroll in the course were the control group. These two groups were matched by a computer on the basis of high school G.P.A. scores; type of academic diploma/track the student matriculated in during his/her high school years; ACT scores; and gender. This match generated seventy-four pairs.

The independent variable for the study was the students' completion of a college level developmental reading class. The dependent variables were the students' cumulative college G.P.A. scores and the semesters in attendance. Using a t-test for matched pairs, the difference between the mean semesters in attendance and the mean cumulative G.P.A. scores were compared for the control and experimental groups when subdivided according to: gender; academic tracks relative to high school preparation programs; and categories of high school G.P.A. scores established by a .5 point range.

The findings of the study confirmed that the developmental reading course for college students did not make a significant difference between the experimental group and the control group in terms of persistence or the cumulative college G.P.A. scores when these were evaluated over a five year period, 1984 and 1989.

Important implications are that one course in development reading is not sufficient remediation; and that in order to be successful in college, underprepared students must experience a more dramatic and pervasive type of intervention than a single course can offer.

The recommendations include intervention at the high school level; at the college entry level; and within the student's major.

Students must matriculate in an academic track in high school in order to be successful in college. After entering college, underprepared students need to be advised into remediation programs in the basic skills until their scores indicate they can do college-level work.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
The Problem	4
The Purpose	5
Previous Research	5
Importance/Need of Study	6
Assumptions	7
Limitations	8
Delimitations	9
Definition of Terms	10
Hypotheses	11
Methods and Procedures	14
Organization of the Study	15
Summary of Chapter I	16
II. REVIEW OF THE LITERATURE	19
Developmental Education in College	19
Models and Theories of Attrition/Persistence	38
Summary of Chapter II	51
III. METHODS AND PROCEDURES	54
Population	54
Variables in the Study	57
Duration of the Study	61
Description of the Treatment	62
Data Collection Procedures	66
Summary of Chapter III	73
IV. ANALYSIS OF THE DATA	74
Findings	75
Summary of Chapter IV	93
V. SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS	94
Summary	94
Findings	97
Conclusions	100
Implications and Recommendations	101
LIST OF REFERENCES	112

	PAGE
APPENDICES	125
A. COMPUTER GENERATED PAIRS OF STUDENTS	126
B. COURSE OUTLINES AND RELATED MATERIALS	135
VITA	143

LIST OF TABLES

TABLE	PAGE
I. Comparison 1--Critical Ratio Scores of the Difference Between Means of the Experimental Group and the Control Group on Cumulative College Grade Point Average Scores	75
II. Comparison 1.a--Critical Ratio Scores of the Difference Between Means of the Experimental Males and the Control Males on Cumulative College Grade Point Average Scores	76
III. Comparison 1.b--Critical Ratio Scores of the Difference Between the Means of the Experimental Female and the Control Females on Cumulative College Grade Point Average Scores	76
IV. Comparison 1.c--Critical Ratio Scores of the Difference Between Means of the Experimental Males and the Experimental Females on Cumulative College Grade Point Average Scores	78
V. Comparison 2--Critical Ratio Scores of the Difference Between Means of the Experimental Group and the Control Group on Cumulative Semesters in Attendance	79
VI. Comparison 2.a--Critical Ratio Scores of the Difference Between Means of the Experimental Males and the Control Males on Cumulative Semesters in Attendance	80
VII. Comparison 2.b--Critical Ratio Scores of the Difference Between the Means of the Experimental Females and the Control Females on the Cumulative Semesters in Attendance	80
VIII. Comparison 2.c--Critical Ratio Scores of the Difference Between Means of the Experimental Males and the Experimental Females on Cumulative Semesters in Attendance	81
IX. Comparison 3.a--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed a Vocational Track in High School and the Control Group Who Completed a Vocational Track in High School on Cumulative College Grade Point Average Scores	83

X.	Comparison 3.b--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed a General Track in High School and the Control Group Who Completed a General Track in High School on Cumulative College Grade Point Average Scores	83
XI.	Comparison 3.c--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed an Academic Track in High School and the Control Group Who Completed an Academic Track in High School on Cumulative College Grade Point Average Scores	84
XII.	Comparison 4.a--Students with High School G.P.A. > 1.5 < = 2.0; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative College G.P.A. Scores	85
XIII.	Comparison 4.b--Students with High School G.P.A. Scores > 2.0 < = 2.5; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative College G.P.A. Scores	86
XIV.	Comparison 4.c--Students with High School G.P.A. Scores > 2.5 < = 3.0; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative College G.P.A. Scores	86
XV.	Comparison 4.d--Students with High School G.P.A. Scores > 3.0 < = 4.0; Critical Ratio Scores of the Difference Between Means of the Experimental Group and the Control Group on Cumulative College G.P.A. Scores	87
XVI.	Comparison 5.a--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed a Vocational Track in High School and the Control Group Who Completed a Vocational Track in High School on Cumulative Semesters in Attendance	88
XVII.	Comparison 5.b--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed a General Track in High School and the Control Group Who Completed a General Track in High School on Cumulative Semesters in Attendance	89

XVIII.	Comparison 5.c--Critical Ratio Scores of the Difference Between Means of the Experimental Group Who Completed an Academic Track in High School and the Control Group Who Completed an Academic Track in High School on Cumulative Semesters in Attendance	89
XIX.	Comparison 6.a--Students with High School G.P.A. Scores $> 1.5 \leq 2.0$; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative Semesters in Attendance	90
XX.	Comparison 6.b--Students with High School G.P.A. Scores $> 2.0 \leq 2.5$; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative Semesters in Attendance	91
XXI.	Comparison 6.c--Students with High School G.P.A. Scores $> 2.5 \leq 3.0$; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative Semesters in Attendance	91
XXII.	Comparison 6.d--Students with High School G.P.A. Scores $> 3.0 \leq 4.0$; Critical Ratio Scores of the Difference Between the Means of the Experimental Group and the Control Group on Cumulative Semesters in Attendance	92
XXIII.	Computer Generated Pairs of 1984 MSU Freshmen Who Did/Did Not Take Developmental Reading Matched on Four Variables	127
XXIV.	Matched Pairs of Students Who Completed a Vocational Track/Diploma in High School	128
XXV.	Matched Pairs of Students Who Completed a General Track/Diploma in High School	129
XXVI.	Matched Pairs of Students Who Completed an Academic Track/Diploma in High School	133

CHAPTER I

INTRODUCTION

Educational opportunity is part of the fabric of the American dream. Thus, public institutions of higher education across our land empowered by tax dollars offer the fulfillment of this dream by beckoning to our high school graduates with open arms or rather what is known as the open-door policy. Vis-à-vis to this embodiment of institutional policy which is reflective of one of the basic tenets of our society is the 40 percent attrition rate from higher education. This figure has become a national constant established by attrition studies conducted on large representative samples of college students at all types of institutions over the last four decades (Iffert, 1956; Panus & Astin, 1968; Cope & Hannah, 1975; Beal & Noel, 1980; Tinto, 1987). Consequently, the open-door policy of most public colleges and universities is really a revolving door with little or no opportunity provided for those students who are ranked as below average based on their reading ability.

The type of analysis done at Sacramento City College appears to represent the typical course of events for the academically underprepared student. After their data were

analyzed, the following conclusions were presented (Wright, McCue, & Alcantra, 1985):

1. Students reading below 10th grade level have very little chance of receiving a "C" grade or higher in any class except basic skills.
2. Assessed students who drop classes possess reading proficiency levels similar to those who persist and fail.
3. Assessed students are less likely to drop out than unassessed students.

Proficiency in reading is the critical factor related to academic success.

Although these data are highly predictive in nature relative to those students who will drop out, concern for the student who has underdeveloped reading skills has not sent college administrators scurrying to develop mandatory screening and placement policies to provide appropriate remediation. In his study, Rouech (1986) reported that 30 to 40 percent of all entering freshmen were reading below seventh grade level. The fact that only 16 percent of the group needing remediation were enrolled in college-level remediation programs speaks instead of a laissez-faire attitude (Cahalon & Farris, 1985).

This attitude prevailed among college administrators during the decades of the sixties and seventies because institutions could not accommodate the large increase in the number of students seeking a higher education. Breneman's (1985) statistics show that nationally the number of eighteen year olds more than doubled between 1950-1980.

Colleges and universities expanded faculty and facilities as rapidly as possible and still could not meet the needs of that era and of those students who were well prepared for academic life. However, that halcyon era is over. A well documented 20 to 40 percent enrollment decline began in the early eighties and is not expected to bottom out until the turn of the century (Lonabaker, 1984; Breneman, 1985; Rainsford, 1985).

McConnell (1985) identifies the nonselective private liberal arts colleges and regional state colleges and universities, many of them former state teacher's colleges and universities, which are not located in metropolitan areas, as the two high-risk groups. The small southeastern university where this study was conducted is representative of the regional state college group. These are the institutions most unlikely to recoup their enrollment losses.

The largest available student pool, the high-risk colleges and universities may tap to reduce their enrollment declines, are those freshmen who enroll each fall but do not persist until the completion of a program or degree. As Rainsford (1985) has pointed out, the costs of retention are fractions of the cost of recruiting and one student retained is the equivalent to two to five students recruited and admitted. Tinto (1986) states that while the pool of available students continues to shrink, the competition for

those students has intensified as institutional officers become more skilled at using new recruitment techniques. By contrast, as less than half of all students complete their degrees at the institution in which they first enroll, there is still much room for improvement in rates of institutional retention.

1. THE PROBLEM

What is clearly needed is a research base that ties the best practices in college level remediation of reading difficulties to retention efforts. If dollars spent on remediation for high risk college students do have some long range benefits in terms of student persistence and success in college, this information needs to be brought to bear on enrollment management policies. Presently, this information is very difficult to obtain. Only 63 percent of colleges and universities keep records on all freshmen retained to the second year. A much smaller percent, thirty-five, kept records on students taking remedial courses (Wright, Calahan, & Farris, 1984) and this only to the second year. A longitudinal study comparing those students who received help with their reading difficulties at the college level with a comparable group who did not receive help would show whether the expense incurred for this instruction has an

appreciable impact on student life in terms of persistence and improved grade point averages.

2. THE PURPOSE

The purpose of the study was to determine the impact of a college level developmental reading class on the student's ability to matriculate more successfully in college. The dependent variables of interest were the individual student's G.P.A. and his or her persistence as evidenced by continual enrollment. The independent variable was the successful completion of a college developmental reading class which provided the students with a curriculum based on their instructional level of reading.

3. PREVIOUS RESEARCH

Earlier efforts to ascertain the effects of a college developmental reading class on G.P.A. have produced mixed results (Tillman, 1974; Fairbanks, 1974; Staley & Smyth, 1979; Munro, 1981). A few studies show at least a recognition of the problem of attrition (Parkham, 1977; Carney & Geis, 1979); however, most do not deal with retention. Studies of the effect of reading instruction on G.P.A. have not been able to simultaneously account for the three critical variables of reading gains, G.P.A. gains, and

student attrition (Heerman, 1981). Heerman recommended as a result of his research that college reading professionals take a strong leadership role in retention since reading professionals have a long history of research in college student reading and learning problems. If reading improvement can make an appreciable difference on attrition and G.P.A., colleges and universities in the high risk group could help solve their imminent national problem concerning loss of enrollment by more careful assessment and placement of students in a developmental reading class.

4. IMPORTANCE/NEED OF STUDY

The enrollment declines which are predicted for state supported regional universities and nonselective private universities (Breneman, 1985) will bring in their wake sharp fiscal cutbacks. The federal monies that formerly supported programs at the college level for remediation of basic skills have also been reduced to a fraction of the former levels of appropriation (Roemer, 1985). Consequently, fiscal necessity will cause many college developmental reading programs to be discontinued.

However, if a college level developmental reading class can help overcome the college enrollment decline, it would be foolish to discontinue a possible solution to the ensuing enrollment crisis. Monies spent on any program which reduces

attrition will prove to be a wise investment in the next decade. If monies spent on a college developmental reading program can reduce attrition, college administrators should want to know what type of program produces these results and the type of entry profile the student who can be helped must have.

5. ASSUMPTIONS

High school academic achievement and the type of curriculum chosen for matriculation appear to be key indicators of success in college (Rowe, 1985). Several studies have validated the use of the composite ACT score as a valid predictor of reading ability (Carney & Geis, 1981; Noble, 1986). Consequently, for the purposes of this study, it is assumed that entering students matched on the basis of:

1. high school G.P.A. scores are comparable in terms of success in high school.
2. ACT scores are comparable in terms of academic achievement in high school.
3. the type of academic track in which the student matriculated in high school are comparable in terms of previous academic experience.

4. the aforementioned measures are also comparable in terms of reading ability.

6. LIMITATIONS

1. Although the difficulty of the curriculum in which the student matriculates does exert a tremendous influence on college G.P.A., the students in this study were not matched according to a declared major. It was not feasible to do so because of the number of undeclared students and because of the number of students who change their majors. Consequently, a limitation of this study is lack of control over the difficulty of the curriculum chosen by the student.

2. All of the students in this study attend a relatively small (6800 student population) state supported, open admissions, regional university. The general education curriculum and the various academic programs which the students elect may or may not be representative of the academic milieu confronting the typical freshman. A lack of variation in institutional types is a limitation of this study.

3. The students in the experimental group all took a developmental reading course which was completely individualized according to the diagnosed reading level of each student. The reading materials they were asked to work with were considered to be developmentally appropriate in

that they were on the students' instructional level. Each student was asked to work for improvement in five areas: independent/pleasure reading; vocabulary study; comprehension; reading rate; and study skills as these relate to comprehension monitoring. A variety of materials and levels were utilized and matched to the student's developmental level. This study can only be generalized to developmental reading programs comparable in nature.

7. DELIMITATIONS

The study is limited to those students who enrolled as Freshmen at Morehead State University in Morehead, Kentucky during the Fall of 1984. The experimental group was composed of freshmen who enrolled in ED.EL. 110, Developmental Reading during their first semester at Morehead State University. The student population who completed ED.EL. 110, are matched in pairs on the basis of gender, high school G.P.A., composite ACT scores, and the type of high school curriculum they experienced (college preparatory, general or vocational) with those who did not take the course. The distribution of the population according to ACT scores shows that those students who matriculated in developmental reading and their matched pairs had a mean ACT score of 11.92 with a standard deviation of 3.46. The study can only

be generalized to student populations similar to the population used in the study.

8. DEFINITION OF TERMS

Developmental reading class--is a class in which the curriculum is adjusted to correspond with the student's reading level and broad areas of strength and/or weakness.

Independent reading level--is that reading level at which the student comprehends 90 percent of the material read and recognizes 98 to 100 percent of the vocabulary (Harris & Sipay, 1985).

Instructional reading level--is the level at which a student can read with approximately 95 percent accuracy in word recognition and approximately 75 percent accuracy in comprehension, averaged across silent and oral passages (Taylor, Harris, & Pearson, 1988).

Persistence--is that student quality which is characterized by the act of continual enrollment (Dallman, 1984).

Academic tracks--were for the purpose of this study differentiated in the following manner (In 1984, the state of Kentucky did not differentiate between diploma types on the high school transcript):

- Academic track/diploma--is a high school diploma awarded to a student who earned a minimum of five graduating credits in some combination of science, math, or foreign language classes in addition to the state requirements for graduation.
- General/track diploma--is a high school diploma awarded to a student who completed the state requirements for graduation only.
- Vocational/track diploma--is a high school diploma awarded to a student who earned a minimum of five graduating credits in vocational courses such as typing, shorthand, office practice, auto mechanics, agriculture, diversified occupations, etc. in addition to the state requirements for graduation.

9. HYPOTHESES

1. There is no significant difference between the mean grade point averages at the end of their college enrollment of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs.

1.a. There is no significant difference between the mean grade point averages at the end of their college enrollment of those male students who completed ED.EL. 110,

Developmental Reading and those male students who did not take the course when they are matched in pairs.

1.b. There is no significant difference between the mean grade point averages at the end of their college enrollment of those female students who completed ED.EL. 110, Developmental Reading and those female students who did not take the course when they are matched in pairs.

1c. There is no significant difference between the mean grade point averages at the end of their college enrollment of those male students who completed ED.EL. 110, Developmental Reading and the mean grade point averages of those females who completed the course.

2. There is no significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs.

2.a. There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those male students who completed ED.EL. 110, Developmental Reading and those male students who did not take the course when they are matched in pairs.

2.b. There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring

of 1989 as evidenced by the difference between the mean semesters in attendance of those females who completed ED.EL. 110, Developmental Reading and those females who did not take the course when they are matched in pairs.

2.c. There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference in the mean semesters in attendance of those males students who completed ED.EL. 110, Developmental Reading and those females who completed the course.

3. There is no significant difference between the mean grade point averages of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by academic tracks.

4. There is no significant difference between the mean grade point averages of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by high school G.P.A. scores.

5. There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did

not take the course when they are matched in pairs and grouped by academic tracks.

6. There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by high school G.P.A. scores.

10. METHODS AND PROCEDURES

Population

The population for the study consisted of a sample drawn from those college students who were enrolled as first semester freshmen at Morehead State University, Morehead, Kentucky in the Fall of 1984. The sample consisted of those students who enrolled in ED.EL. 110, Developmental Reading, matched in pairs with other freshmen at the same school who did not take the course. The pairs were matched on the basis of gender, composite ACT scores, high school G.P.A. scores, and the type of curriculum in which the students matriculated during their high school years. The types of curriculum that were considered were academic/college preparatory curriculum, general educational curriculum and vocational educational curriculum.

Collection of the Data

Following the matching of pairs as indicated above, students were dropped from the study who took another developmental reading course or who took any course in which the course syllabus signified that help with reading improvement was a course objective.

Analysis of the Data

Those students who took the developmental reading course were designated as the experimental group. The students with whom they were matched were designated as the control group. Using a t-test for significance, the mean G.P.A. scores and the mean number of semesters in attendance for each student group of matched pairs were computed. Students in the control group and experimental group were compared first with gender introduced as a variable, then by academic tracks and finally by high school G.P.A. scores.

11. ORGANIZATION OF THE STUDY

This study is presented in five major chapters. Chapter I includes the introduction, statement of the problem, purpose for the study, previous research, need for the study, assumptions, delimitations and limitations, definitions, hypotheses, procedures, and a statement of the organization of the study, plus a summary.

Chapter II is a review of the literature relevant to developmental education at the college level as well as a review of models and theories of student withdrawal from higher education.

Chapter III is an explanation of the procedures followed in conducting this study.

Chapter IV presents an analysis of the data.

Chapter V contains a summary, findings and conclusions, and discussion of implications and recommendations for further study.

12. SUMMARY OF CHAPTER I

In an ever-increasing technological age, today's job market requires a better educated populace. The challenge of our society is to better educate its people. As a nation, our survival may be dependent on our ability to meet this challenge.

Currently, many of those entering higher education are less prepared to meet the rigors of academia than their predecessors (National Commission on Excellence in Education, 1983). Although, as a nation, this country has come closer than any other in providing access to a postsecondary education for all high school graduates, it is no longer feasible to define equality of educational opportunity in terms of access. Since the ranks of the

academically under-prepared have grown, more resources must be directed toward the upgrading of their deficiencies before we can as a nation meet the current educational challenge to educate larger numbers of postsecondary students or before it can be said that equality of educational opportunity has been achieved.

A better understanding of what works in developmental education in general and in developmental reading in particular is needed. Institutions need to examine their current developmental programs for efficacy and to determine where change may be needed.

In addition, it is particularly important that strategies for stabilizing enrollment be sought by colleges and universities in the high risk group described by McConnell (1985). If these institutions who attract a larger proportion of underprepared students cannot provide programs that meet the needs of these students, the viability of their existence may even be in question. Institutional leaders must also become more aware of the dropout problem, the projected enrollment declines, and the need for effective developmental education. A national survey of college presidents reported that only 16 percent expected their universities to lose enrollment while 42 percent actually expected their institutions to experience enrollment growth (Breneman, 1983a)! In the March, 1983, issue of The Magazine for Higher Learning reactions,

possible solutions, and preferred plans by administrators from seven different universities were given in response to the projected enrollment declines (Breneman, 1983b). Notably lacking from this forty-eight page discussion was any introspection concerning attrition rates and why students drop out. Before possible solutions will be sought, those in leadership positions must become more aware of the realities of the current educational scene and the needs of the students whom they must serve. This study addresses these issues and provides information concerning the efficacy of a college level developmental reading class in reducing the dropout rate or in improving college G.P.A. scores.

CHAPTER II

REVIEW OF THE LITERATURE

1. DEVELOPMENTAL EDUCATION IN COLLEGE

History and Philosophy

Historically, our society has lacked a single unifying philosophy concerning who should participate in higher education. In colonial days, no attempts were made to provide learning assistance to underprepared students. Also, certain groups were deliberately eliminated from the ranks of higher education because it was felt that these groups did not have a life style which would make use of a higher education. Among these were the poor, women, and ethnic minorities (Dempsey, 1985, p. 30).

Philosophic differences about who should participate in higher education were evident between such early notables as Charles Eliot, president of Harvard in 1869, and Henry Tappan, president of the University of Michigan in 1852. Tappan denounced the dilution of course content to meet the needs of underprepared students. He launched a strong movement toward the establishment of an European type university modeled after the University of Berlin (Brubacher & Rudy, 1976, p. 157). Despite Tappan's strong leadership,

the American secondary school had not prepared students to function on this level. This lack of preparation for college-level work prevails among large numbers of high school graduates even today.

Charles Eliot, during this same era, sounded the horn of compassion for the underprepared student. Eliot stated, "The American college is obligated to supplement the American school. Whatever elementary instruction the schools fail to give, the college must supply" (Roberts, 1986, p. 3). A few years later, 1874, Harvard began to provide the curriculum appropriate to these beliefs. An elective system was established. Students were allowed to choose some courses which would be best for them according to their perceived needs. Among these was a simplified freshman course in English (Roberts, 1986, p. 12).

The establishment of the College Board Examination in 1890 made student deficiencies known to administrators before the fact of enrollment for the first time (Bruebacher & Rudy, 1976, p. 246). By 1907, half of the students attending Harvard, Princeton, Yale, and Columbia failed to make the College Board scores set by the admission requirements for these respective colleges; however, it was necessary to admit these students in order to fill enrollment quotas (Dempsey, 1985, p. 8). Shortly after, the first developmental education courses were established at Wellesley College in Massachusetts (Roberts, 1986, p. 12).

The movement for developmental education became so well grounded that by 1915, the United States Commissioner of Education reported 350 colleges had high schools, academies, or preparatory departments directly connected with them (Demsey, 1985, p. 8). However, with the exception of women, these efforts were not inclusive of those groups discriminated against in colonial days.

As Valverde (1985) points out, it was not until the late sixties that the equality movement began to address those early prejudicial attitudes by establishing access to higher education for ethnic and racial minorities and the economically disadvantaged. The term "nontraditional" was coined and became inclusive of this group as well as older students, particularly women, the handicapped, and underachieving white students. In the seventies, this movement was expanded to include efforts at retaining these groups of students.

The difference between the expectations of college professors and administrators and the actual level of student performance has been with us since those early days. The question of whether to exclude these students or to develop their abilities on a lower level is not a query articulated only in contemporary society.

Successful Programs

Successful Programs: Types

Several researchers have looked at the program design of college developmental studies programs (Keimig, 1983; Devirian, Enright, & Smith, 1975). From the vast number of programs evaluated, four major types emerged which represent institutional incentives approached from two different directions. The four types in ascending order of effectiveness are (Kemig, 1983):

- (1) isolated remedial skills courses;
- (2) learning assistance to individual students;
- (3) course-related supplementary learning activities;
- (4) comprehensive learning systems in academic courses.

Types one and two involve institutional incentives to buy professional and support services for the underprepared student and types three and four involve curricular changes (Moore & Carpenter, 1985, p. 100). The following discourse will describe one or more exemplary programs representing Keimig's (1983) groupings.

Remedial skills courses. These are most often offered in reading, math, writing and study skills (U.S. Department of Education, National Center for Educational Statistics, 1985). These are offered either under the auspices of a Special Services Program or given ancillary support from the

Special Services Program such as peer tutoring, counseling, career planning, and special advising services.

The Center for Academic Development at the University of Missouri-St. Louis offers this type of exemplary program (Noel & Levitz, 1982, p. 49). The Center has three basic divisions: a Communications Program, a Mathematics Program, and a Special Services Program. All of the courses carry nondegree credit, are offered by the academic department in which the discipline lies, and have a noncredit laboratory attached where the student can get one-to-one tutorial help. For example, the Writing Program includes English 09, a three hour, noncredit course offered by the English Department. The writing lab offers one-to-one tutorial assistance for writing problems and the remedial English lab offers structured individual or small group instruction for students with basic English composition problems. The Special Services Program offers a variety of support services such as advising, tutoring for small groups, time management, etc.

Learning assistance to individual students. The Reading and Study Skills type of intervention (Roueche & Snow, 1977, pp. 54-55) is available at the University of Texas. Students may participate in a number of noncredit, nongraded courses in a variety of areas. Offerings include note taking, vocabulary improvement, spelling, reading skills, study

techniques, etc. Topical one-hour sessions are offered to provide immediate assistance on a regular basis. Students may attend as many sessions as they desire.

The Student Learning Center at the University of California-Berkeley, proposed and developed by Martha J. Maxwell, has a similar structure. The library-laboratory provides a large array of self-help programs and tutorial programs. Peer tutoring is available in reading, writing, and social studies. The tutoring is provided by undergraduates taking a field studies course offered by the education department. Students may enroll in any number of noncredit minicourses designed to improve reading, writing, and test taking skills (Roueche & Snow, 1977, pp. 43-45).

Supplemental instruction mode. This model has been used with great success at the Missouri-Kansas City University, has been sanctioned by the United States Office of Education, and has training materials available (Martin, Blanc, & DeBuhr, 1982). The program approach was changed from a reactive to a proactive status by adapting a model which represents a shift in emphasis from high-risk students to high-risk courses. Supplemental instruction is provided for seven introductory courses: biology, two chemistry courses, two economic courses, and two history courses.

Any student enrolled in these courses is eligible to attend supplemental instructional sessions which are

scheduled during a time most convenient to those enrolled. The sessions are conducted by an instructional leader who attends the class, models appropriate note taking techniques, and teaches effective reading styles via the reading assignments of the course. Students also receive help in designing study schedules, forming informal study groups, and utilizing techniques that promote storage and retrieval of information. While examining old tests for the particular course, the students are given instruction in test taking techniques. The design contains a strong evaluation component which sends feed-back to the instructor for the course, the instructional leaders, and the Deans of the departments. Reenrollment data showed a 77.4 percent return for the group receiving supplemental instruction and a 67.3 return for the group who did not participate in the program. This was significant at the .01 level. Grade point averages were statistically significant at the 0.05 level for both those students in the top quartile (3.1 as opposed to 2.3 for the non-SI group) and those in the bottom quartile (1.7 as opposed to 0.9 for the non-SI group), (Martin, Blanc & De Buhr, 1982).

Comprehensive learning systems in academic courses. A program of this type is offered at Cornell University (Collins, 1982). The model combines regular university course work with developmental courses that are

representative of all seven of Cornell's undergraduate colleges. This is a summer program which is free to its participants and includes a full package of room, tuition, books, a stipend for incidentals, and financial aid replacement for any expected summer earnings.

The university course taken represents graduation requirements while the developmental course's focus is on first-term requirements within a specific program. Schedule examples might be: a student in Arts and Sciences taking a regular university course in English and developmental courses in social science and biology; an engineering student might take a regular university course in computer science with developmental courses in calculus and math. The program evaluation compares the grade point averages for the first year with those regularly admitted. Summer program students earned a mean first-year G.P.A. of 2.45 while nonparticipants earned a mean G.P.A. of 2.55.

Successful Programs: Administration

The literature concerning successful programs indicates certain administrative functions are central to the success and/or effectiveness of the program. Keimig states in her review (1983) that successful programs have two broad characteristics in common: comprehensiveness in their support services, and institutionalization into the academic mainstream.

Those support programs which inhibit attrition help the student to undergo a successful integration into the academic and social life of the institution. Advising and orientation programs have shown themselves to be key elements in facilitating this integration (Noel, Levitz, & Kaufmann, 1982; Upcraft, Gardner & Associates, 1989; & Gardner, 1986). Institutions where the administration rewards the advising efforts of the faculty with reassigned time, supplemental monetary compensation, and campus-wide recognition for excellence in this area have been able to document dramatic enrollment declines among all categories of students and particularly among those categorized as underprepared (Crockett & Levitz, 1984; Larson & Brown, 1983).

Most faculty perceive themselves as competent in delivering the advising service. However, this is a misconception. Student responses from the 1985 Cooperative Institutional Research Program (Astin, Korn, & Green, 1987) reveal that many students (275,000 students at over 550 colleges participated in the study) are disenchanted with the academic advising they receive. This is particularly true when comparing satisfaction with advising at both public universities and private colleges (42.5 versus 61-66 percent). The only categories given a lower rank were other important student service components-financial aid and career counseling. These responses reinforce the stereotype

reinforce the stereotype of the large public university as being a cold, impersonal place.

The need for appropriate orientation efforts has received national attention (Upcraft, Gardner & Associates, 1989). Freshman orientation programs or seminars offer an administrative prerogative for a practical outreach to freshmen in an effort to successfully orient and integrate them into college life. The University 101 Seminar established at the University of South Carolina under the tutelage of John Gardner has become a national model. In ten of the fourteen years that retention research has been conducted on this program, the return rate for sophomores has been statistically significant (chi square; $p < .05$) (Fidler, 1986).

Many factors have made this orientation/seminar program a national success; notable among these are the training program provided for faculty who will staff these classes (Gordon, 1989); the published textbooks--College Is Only the Beginning (Gardner & Jewler, 1989), Step by Step to College Success (Jewler & Gardner, 1987); and more importantly, certain psychological underpinnings. These were apparent and practiced in the program long before the texts were formalized into books (Jewler, 1989, p. 200).

The importance of the developmental program being considered part of the campus mainstream cannot be overstated. The more congruence a student perceives between

his subculture and the university in general, the more likely he is to persist (Tinto, 1987, p. 59). Tinto, explains that the research concerning the persistence of disadvantaged, largely minority youths, who are enrolled in Special Services Programs indicates that there is an important association between program success and its centrality within the mainstream of institutional life. The student is aware of the relationship of this unit to other academic units in the university. In his report, Roueche (1985) explains that program guidelines must be effectively communicated to students by an office that has the clout to enforce them. This office must be able to establish initiatives concerning the underprepared student. Roueche recommends the following elements relevant to meeting the needs of low-achieving students:

1. Strong administrative support
2. Mandatory placement
3. Structured courses
4. Credit awarded
5. Flexible completion strategies
6. Multiple learning systems
7. Volunteer instructors
8. Peer tutoring
9. Ongoing student monitoring
10. Linkage with subsequent courses
11. Program evaluation

None of these recommendations can be initiated without the backing of an administrative office which functions as a major administrative unit.

Successful Programs: Placement

The assumption that in the provision of services to remediate basic skills lies the panacea for the underprepared college student for the most part has been fallacious. A national study conducted by the ACT National Center for the Advancement of Educational Practices verified the existence of such programs at virtually every institution in the sample. Ninety-eight percent of the four-year public institutions reported Trio programs which included remedial/developmental courses and 92 percent had programs designated as general college learning support systems. The institutional report relative to the same categories was respectively 86 percent and 75 percent for the four-year private institutions (Noel & Levitz, 1982, p. 11).

However, the existence of such programs does not insure student participation. The failure of students to access needed remedial/developmental services appears to be influenced both by institutional policy and student avoidance behavior. Nationally, 40 percent of the general college learning programs do not mandate participation nor do 43 percent of the Trio Programs (Noel & Levitz, 1982, p. 17). When universities are federally funded to provide support services for underprepared students, as the Trio programs are, it would seem that required participation by

those groups the money is provided to help would be axiomatic!

In addition, Friedlander (1980) concludes that those who need crucial and immediate help are also those most unlikely to seek aid from the appropriate college resources. In an effort to explain this type of avoidance behavior, Friedlander accesses the Theory of Achievement Motivation (Atkinson & Birch, 1970). This theory explains that the likelihood of voluntary participation in activities which have been intrinsically satisfying to the individual is very high. Conversely, if a student has been frustrated or punished by the undertaking of an activity in the past, this produces an inhibitory force. These researchers (Atkinson & Birch, 1970) maintain that in order to facilitate participation, the student's expectation of frustration and punishment must change.

From the inception of a student's formalized education, initial failure to read and/or make appropriate developmental progress at any stage is much more frustrating than any other type of academic failure (Harris & Sipay, 1986). The underprepared student has experienced such failure; and, consequently, is the victim of this kind of inhibitory force.

Changing the negative expectation of those students who do experience an inhibitory force concerning participation in a developmental reading course takes careful academic

counseling. The advisor must play a key role in helping these students enroll in the classes they need as well as in helping them to understand their own avoidance behavior. Kramer and Spencer (1989, chap. 8) point out the many nuances of successful advising when dealing with freshmen, and the importance of having a unified campus-wide plan to guide faculty advising which utilizes the student profile and coordinates campus services in the interest of the student's development. "Understanding the educational perspective and motivation of freshmen is critical to effective advising" (Kramer & Spencer, 1989, p. 96).

Although requiring a student to take a remedial/developmental course remains a controversial issue, Roueche and Snow (1977, p. 85) report that their data support this practice. Allowing a student with a history of academic difficulty to go undirected sends a message. The message is, "We don't care if you fail."

Astin (1985, p. 165) cites the recommendations of the Study Group on the Conditions of Excellence in Higher Education (1984). This group recommends that all members of the academic community, faculty and administrators, participate in academic advising rather than have the advising responsibility assumed by professional staff members who do not teach.

This does not mean that the student is not involved in the decision concerning placement. Their motivation to

participate is fundamental. However, the advisor and the professors who teach the developmental courses should have enough professional finesse to elicit the student's cooperation. Roueche and Snow are quick to point out that a poorly prepared student who wants to try to make it on his own should be allowed to do so (1977, p. 85). Only as a student perceives that his wishes make a difference, can any form of help make a difference. This does not mean that a student should be granted autonomy without appropriate intrusive advising. Moore and Carpenter (1985, pp. 101-102) quote Sheridan (1982, p. 41) concerning placement in developmental courses:

If a student who is deficient in reading and study skill is also motivated to improve such skills, the intangible variables of self-discipline, persistence, and maturity will also contribute to his/her ultimate success in the completion of a college degree.

Successful Programs: Faculty

Who should teach the developmental student, particularly those within the developmental studies program? The obvious answer is the best teacher available. What constitutes the best teacher profile is not widely understood by administrators. In an effort to point out the pitfalls of using the typical input measures to judge quality teaching by proxy, Levitz and Noel (1985, chap. 7) cite the work of Forrest (1982). Forrest's data based on outcome assessment brings the evaluation back to the firing

line, the student's experiences in the classes the student is taking. Using the typical input measures of teacher/faculty ratio, number of faculty with doctorates, or even the number and types of support services does not constitute the assurance of quality teaching. Moore and Carpenter (1985, chap. 6) point out that certain skills and attitudes profile the type of teacher who can be successful with underprepared students. These characteristics are: knowing how the basic skills are learned; focusing on the student and not on research, publications, and other factors that are part of the higher education community; and tolerance for students who perform at lower levels. Faculty with a background in elementary teaching are recommended because as a group they most often possess these attributes. "Most of what we believe to be truly innovative has little to do with one particular teaching method or another but with attitudes" (Moore & Carpenter, 1985, p. 106).

Because the delivery system for quality teaching is greatly influenced if not governed by faculty attitudes, Moore and Carpenter point out that the elitist attitude which governs so much of faculty behavior is detrimental to student welfare in general and to the welfare of the underprepared student in particular. They call for an attitude change (1985, p. 106):

Will academic faculty voluntarily change their attitudes, or at least some of their practices with regard to who is qualified to teach or be their colleague, which students deserve and are

eligible for or entitled to their services, and which activities--teaching, research, or service will receive priority?

Astin (1986, chap. 6) considers the world view of the faculty concerning educational services and their role in the delivery of these services so important that he further extrapolates these views into philosophies and categorizes them. He explains that the faculty in carrying out their teaching responsibilities usually espouse a pedagogical theory. Astin defines three such theories: the content theory, the resource theory, and the individualized theory and explains how these impact the degree of student involvement. Because these theories are implicit, their existence can only be documented by examining the behavior of the faculty and/or the administration.

The content theory or subject matter theory (Astin, 1985, pp. 137-139) is very popular with most faculties. According to this theory, exposure to the right subject matter is the answer to educational excellence. Courses are evaluated by examining course syllabi and faculty are evaluated by degrees, scholarly expertise, and visibility within their disciplines. This gives those professors with the greatest specialized knowledge the highest prestige. It is flawed in that it does not address several important issues. Scholarly expertise cannot be equated as pedagogical ability; the student is assigned a passive role; and it impedes efforts to expand educational opportunity for

under-prepared students. Students who read slowly or have no intrinsic interest in the content of a course suffer the consequences when the preponderance of a college faculty espouse this philosophy.

The resource theory of excellence (Astin, 1985, pp. 139-140) is particularly popular with administrators. By enhancing a university's resources, it is believed that educational excellence is best served. Such resources cover a wide range of options. Physical facilities, human resources, and monetary resources are brought to bear on the learning climate with the belief that if adequate resources can be brought together in one place, student learning and development will occur.

The deployment of these resources is much more important than their accumulation. The important issue is how involved are students in the utilization of these laboratories, libraries, support personnel, etc. Their existence does not guarantee educational excellence. The utilization of these resources particularly by the underprepared student is dependent upon faculty guidance.

The individualized or eclectic theory assumes that "no single approach to subject matter, teaching techniques, or resource allocation is adequate for all students" (Astin, 1985, p. 140). This theory has more appeal to those who work in the area of student personnel than to faculty. In order to implement this philosophy, the role of these support

personnel must become central to the collegiate experience. However popular this view may be with developmental and learning psychologists, the expense is considered prohibitive by many administrators (Astin, 1985, pp. 140-141).

Since it flies in the face of traditional views of excellence, colleges which espouse this philosophy like Empire State (New York), Evergreen (Washington) and Hampshire (Maine) are relatively new (founded since 1960). Astin (1985) explains that this view of educational excellence often utilizes the competency-based model (Grant, 1979; Mentkowski & Doherty, 1984) which formulates common learning objectives for all students but allows time and instructional techniques to become variables according to the stage of the student's development. Forrest's (1986, chap. 4) studies indicated that those institutions which placed students into remedial, regular or advanced courses based on current ability level increased graduation rates as much as 9 percent but also increased the quality and quantity of what was learned in these general education classes. Those students who experienced such placement had an average score gain of 8.8 on the College Outcome Measurement Program tests while the group not placed according to developmental levels had an average score gain of 4.6. A score gain of 3.0 was viewed as having no significant impact on student growth and a score gain of

11.0 was viewed as having great impact. Since these two groups of students were not significantly different in entry level skills as measured by SAT or ACT scores, are institutions that ignore developmental differences really upholding the standards they cherish?

2. MODELS AND THEORIES OF ATTRITION/PERSISTENCE

Prediction Models

Alexander Astin's intensive research at the Laboratory for Research on Higher Education at the University of California, Los Angeles and with the Cooperative Institutional Research Program (CIRP) culminated in several landmark studies related to student persistence and or attrition (Astin, 1975; 1977; 1982; 1985). The text Preventing Students from Dropping Out (Astin, 1975) presents and explains the construction of a prediction model as to which students will drop out and gives the research base for the variables in the regression analysis. Astin examined the importance of 110 variables related to student persistence. Each of these variables was entered into the regression analysis in a stepwise fashion until no additional predictor was capable of adding significantly ($p < .01$) to the prediction of dropping out (Astin, 1975, p. 25). Those variables which contributed significantly to the

construction of the model were: performance in high school and SAT scores; family background; educational aspirations; study habits; aspirations about college; other student characteristics such as gender, age, marital status; sources of financial aid; work status plans for the freshman year; and place of residence for the freshman year. Of these, the student's past academic record and his/her academic ability are by far the best predictors for academic success. The data generated by this model confirmed previous research studies that the most dropout prone students come from rural areas or small towns, have relatively uneducated parents, have low educational aspirations, and poor study habits (Astin, 1975, chap. 2).

In addition, what happens to a student while in college appears to markedly affect the student's persistence. Performance or grades received are strong predictors of who will stay and who will go even among passing students (Astin, 1975, p. 98). Practically every student with a cumulative G.P.A. of C- drops out. The dropout rate for students with B averages is nearly twice that for students with A averages. However, even in the A and A+ range one in five will drop out. Even good grades are not enough to hold some students in college. Astin's 1975 model was noteworthy in scope, the number of variables considered; in precision, exact weights assigned to each variable; and in the

unusually broad base of students from whom the data were generated.

Environmental Models

In Achieving Educational Excellence, Astin (1985) presents a critical assessment of priorities and practices in higher education and proposes the "Student Involvement Theory" to marshal the important resources of the institution behind efforts to decrease the dropout phenomena. Astin believes that one of the virtues of his theory or model is that it explains in a practical context most of the empirical knowledge gained over the years about environmental factors and their impact on the college student. He defines student involvement as "the amount of physical and psychological energy the student devotes to the academic experience" (Astin, 1985, p. 134). This energy is invested in various objects which may be very specific (preparing for an exam) or very general (the entire student experience). This is the major postulate of the theory.

Each of the postulates explain and clarify the concept of involvement as a conscious investment of energy (Astin, 1985, p. 136):

1. Involvement refers to the investment of physical and psychological energy in various "objects". The objects may be highly generalized (the student experience) or highly specific (preparing for a chemistry exam).

2. Regardless of its object, involvement occurs along a continuum. Different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times.
3. Involvement has both quantitative and qualitative features. The extent of the student's involvement in, say, academic work can be measured quantitatively (How many hours the student spends studying?) qualitatively (Does the student review and comprehend reading assignments, or does the student simply stare at the textbook and daydream?).
4. The amount of learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.
5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement.

Astin's 1977 study which used longitudinal data on more than 200,000 students highlighted the fact that involvement in college produces significant change within each individual and that these changes (a strengthening of the student's competence, self-esteem, liberalism, hedonism, and religious apostasy, and a weakening of business interests) can be characterized as greater than average changes. His "Student Involvement Theory" goes further and postulates that "for certain student outcomes, involvement is more strongly associated with change than either the entering freshman's characteristics or the institutional characteristics" (Astin, 1985, p. 147).

Astin (1987, p. 152) states that the "Student Involvement Theory" provides a useful unifying construct

that can help to focus the energies of all institutional personnel on a common objective. In addition, it provides an appropriate frame of reference for working with students who experience academic difficulties.

Tinto's (1987) environmental model stresses the interaction or degree of fit between the student and the institutional environment. Extending the work of Spady (1970), this longitudinal explanatory model of the persistence/withdrawal process suggests that the student's background traits and initial commitment to the institution attended and to the goal of graduation control how well the student will adjust academically and socially. What happens to the student during the adjustment/integration process either strengthens or weakens the student's prior commitments to the goal of graduation and loyalty to the institution and results in a set of new goals and/or commitments. These subsequent commitments, along with levels of interaction, have important effects on persistence/withdrawal decisions (Pascarella, 1986).

Because of the large number of studies that have tested and supported the model's conceptual core, the importance of person-environmental fit, (Bean, 1984; 1985; Munro, 1981; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1979, 1983; Terenzini, Pascarella, Lorang, & Theophilides, 1986), Tinto's model has guided much of the research on the issue of student attrition from postsecondary institutions. Since

the particulars of this theory explicate much of what is known about student departure, they will be considered individually.

Tinto's model is based on sociological constructs drawn from two of the discipline's major theorists, Van Gennep and Durkheim. Van Gennep's work in social anthropology examined the ceremonies and rituals that revolve around birth, entrance into adulthood, marriage, and death. His research shows how these ceremonies, Rites of Passage, help individuals through times of disturbance (Van Gennep, 1960). Tinto argues that college students must also pass through specific stages that represent similar landmarks in their adjustment to college brought on by the disturbance of establishing oneself in a new environment. Just as suicide is the ultimate withdrawal from life, Tinto (1987, chap. 4) posits that withdrawal from college follows the same types of stages and patterns identified by Durkheim (1951) in his theories concerning suicide. The major analogy is that suicide is the ultimate or final withdrawal that one can make from society; equivocally, dropping out is the final withdrawal from college life.

Van Gennep's (1960) work defines the stages of separation, transition, and incorporation as the landmark stages through which a youth must pass in order to pass from childhood to adulthood. The youth's patterns of interaction with other members of the society to which he belongs

undergo dramatic changes during each of these stages. Social stability in times of change and social revitalization, Van Gennep believed, were brought about by the ceremonies, or rites, that accompanied these stages.

The transition stage is marked by a growing perception that the group you are moving away from holds outmoded views. Tinto (1987, p. 95) points out that in order to be incorporated into college life, the college student must also experience some psychological distancing from his former group. As the college student faces a time of separation from home and family, he also faces the same isolation, pain, and some temporary disorientation symbolized in the ceremonies of primitive societies. In order to be incorporated into the life of a college, students have to disassociate themselves from the communities of their past. "In a very real sense, their persistence in college depends upon their becoming departers from their former communities" (Tinto, 1987, p. 95). The higher rate of departure from higher education among married women, commuters, community college students, small town and rural students, as well as racial and ethnic groups whose members are predominantly different from the university community are well documented in the literature (Pascarella & Chapman, 1983; Eckland & Henderson, 1981; Astin, 1975; Tinto, 1987). The inability of these groups to depart their former communities, Tinto theorized, is the great

incapacitating force that will not allow these students to make the transition or become integrated into the university community (Tinto, 1987).

The second stage, transition, according to Van Gennep (1960, p. 92) is that stage in which the person begins to interact in new ways with members of the new group in which membership is sought. In primitive societies isolation, training, and sometimes ordeals are employed as mechanisms to insure the separation of the individual from past associations and the adoption of behaviors and norms appropriate to membership in the new group. During the transition stage, the new members are expected to learn the knowledge and skills necessary to their specific role in the new group.

The transition stage for the college student, Tinto points out is marked by the same demands (1987, p. 97). Transition begins for the student with the application process and ends when the student feels comfortable in the college environment; or in the negative main, when the student succumbs to the stresses that this transition commonly induces and drops out.

What produces these stresses? The causes are many: learning to fend for themselves in the adult world of college; adjusting to the more rigorous academic demands of college; making new friends in a strange environment; learning how to access the university services necessary to

their well-being; and deciding on their long range educational goals. These are some of the major components of the myriad network of new skills that must be acquired by the entering freshman (Tinto, 1987, chap. 3). The college student must weave these skills into a tapestry of adjustment characterized by activities of appropriate function, proportion, and balance in order to achieve homeostasis and a successful transition into college life.

The incorporation stage involves the taking on of new patterns of interaction and with the establishing of one's self as a competent participant member (Tinto, 1987, p. 93).

Van Gennep's theory does not explain the many interactions among faculty and students which are largely informal that lead to incorporation into college life. To explicate that process Tinto turns to Emile Durkheim's theories concerning suicide (1951). Durkheim's research established four categories of suicide. Each of these, Tinto related to a type of student departure (Tinto, 1987, chap. 3).

The first, altruistic suicide is desirable or morally acceptable suicide in society's view (Tinto, 1987, p. 100). An excellent example of this type of suicide was the hari-kari committed by the Japanese soldiers during World War II. In our society, certain subcultures arise which in the same manner have ideological views that make dropping

out acceptable, even desirable. For example, the first beatniks were college dropouts.

Anomic suicide is enacted during periods of economic, social, or religious upheaval. In the same way, disruptive forces on campus which interrupt the daily operation lead to high rates of student departure. Also, fewer students applied to college during that period. The media is a constant witness that testifies to the near closing of foreign universities during times of turmoil (Tinto, 1987, pp. 100-101).

Fatalistic suicide occurs when the demands of society are too stringent rather than in periods of normlessness. It is, in Durkheim's words, "that suicide deriving from excessive regulation, that of persons with futures pitilessly blocked and passions violently choked by oppressive discipline" (Durkheim, 1951, p. 276). In like manner, institutions which are overly structured through vigorous enforcement of academic and behavioral norms, often also have a high percentage of students dropping out (Tinto, 1987, p. 104).

Egotistical suicide occurs when individuals are unable to become integrated into the membership of the society. College has two systems, intellectual and social, into which the student must seek integration. Total integration into one system usually leads to some conflict with the other. Examples of this bipolar phenomena in college society are

the frat rat and the bookworm. Each of these types is integrated into just one system. The best adjusted students achieve a balance of integration and interaction within and between both separate systems. Institutions which do not have strong local social systems such as the community colleges or nonresidential institutions lack holding power. Fewer avenues are available for students to develop commitment to these institutions. Consequently, one would expect that the attrition rate is much higher in these institutions, and it is (Pascarella, 1981; Moore, 1976; Roueche, 1980).

The absence of contact with other members of the institution particularly the faculty proves to be the single most important predictor of eventual departure (Pascarella & Terenzini, 1983). Without appropriate social and intellectual contacts the college student cannot become integrated into the college system.

Tinto (1987, p. 152) points out the irony of administrative policy allowing freshman classes to become the largest on campus as well as the classes most frequently taught by graduate assistants. These same institutions are often simultaneously hiring additional recruiters in admissions in an effort to compensate for declining enrollments. Thus, institutional policy can be a potent force in retaining students.

Psychological Models or Theories

Cope and Hannah (1978) summarized five studies using the Omnibus Personality Inventory. Impulse expression related to student withdrawal for both men and women in the four studies in which the scale was used. However, they concluded that the studies had not produced a personality profile of those students who would withdraw.

Waterhouse (1978, p. 39) found that underprepared students are "unsure of themselves; need success-cognitive and/or affective; need tutoring and basic skill development; possess minimal knowledge of career and educational opportunities and skills related to taking advantage of both; and need to feel comfortable in the learning environment." Moore (1983, p. 33) faults psychological theories because they have not proven useful in developing action plans to improve instruction. The information that is gained by looking at psychological factors is not helpful when it comes to helping teachers improve the teaching-learning process.

Student Development Theories

As Upcraft (1989, chap. 4) summarizes the theories and models that attempt to explain student development, he points out that the goals of a successful freshman are

congruent with the developmental stages that youth must undergo in the process of redefining themselves. The period is often a time of emotional trauma and these stresses may impact the decision to withdraw from college. In discussing the vectors along which development occurs among college students, Chickering (1969) explains that the college experience may accelerate or retard this development. He defines these vectors as developing competence; becoming autonomous; managing emotions; establishing identity; freeing interpersonal relationships; clarifying purposes; and developing integrity. Chickering's Vectors of Development is probably the most widely known and applied theory of student development.

Kohlberg's Cognitive Stage Theory (1971), Perry's Theory of Intellectual and Ethical Development (1970), and Sanford's Integration/Differentiation Theory (1960) are important developmental theories that offer some explanatory power concerning student persistence in college. However, since these theories are built on a group of basic assumptions regarding student commonality in terms of environment, culture, and background, it has been pointed out that these theories may not be applicable to the types of students that make up the underprepared student population. (Wright, 1984).

Economic Theories

Economic theorists stress the importance of the economic focus in student decision to stay or leave (Manski & Wise, 1983; Iwai & Churchill, 1982; Jensen, 1981; Voorhees, 1984). They believe that students are basing this decision on their perception of costs as opposed to benefits. Again the context is ignored. "Economic theories are generally insensitive to the social or nonpecuniary forces within and without institutions which come to color individual decisions regarding persistence" (Tinto, 1987, p. 89). Naturally, such theorists emphasize the importance of the student's personal financial standing and the importance of institutional financial aid.

Astin (1985) found that students often state that their reasons for leaving college are financial because this appears to be a socially acceptable reason in the eyes of the student. Financial resources are much more a matter of initial access to higher education than they are reasons for withdrawal.

3. SUMMARY OF CHAPTER II

The college experience could be described as the coming together of the will and personality of the student and the will and personality of an institution. The result is a

degree of student/ institutional fit which research indicates determines whether a student will persist or withdraw from college. Via the act of choosing what college to attend, students have some control over the degree of this fit. However, in actuality, the main locus of control is with the institution.

The contextual constraints that call for institutional change in order to accommodate a successful degree of student/institutional fit are upon us. The enrollment projections through the turn of the century indicate that there will continue to be a sharp decline in the available pool of college-age students. During this period the number of underprepared students is expected to expand rapidly. One of the societal demands of a high-tech society is a well educated populace. In order to meet this demand, institutions of higher learning must be more successful in educating that group of students classified as underprepared and with whom their success in the past has been marginal.

Attrition studies and theories have identified those student attributes that characterize the high risk student. The student profile of the academically underprepared as a group represents the embodiment of these characteristics. In order for these students to experience success, the ethos of the institution must reflect a belief in their worth as individuals and the desirability of educating them. The implicit views of the faculty and administration have

tremendous impact on the course of developmental education at any institution.

Although the reasons for student withdrawal from higher education are complex and varied, institutions which approach the dropout problem from a student advocacy perspective can be successful in reducing the dropout rate. Research shows that the views and beliefs of the faculty impact the interaction patterns between the student and faculty within the classroom, in the advising context, and in informal situations. These patterns of interaction do make a difference.

A sizeable body of research is available concerning what works in developmental education. However, it takes commitment on the part of the institution to access this empirical base in order to establish a hierarchy of appropriate practices. The hierarchy begins with how the programs are administered; and encompasses the way students are advised and placed into appropriate courses; the types of courses that are provided; the faculty that are chosen to teach these classes and the rewards granted them. The decisions an institutions makes within each of these categories do and will continue to impact student persistence. The empirical base on which these decisions should be made has been presented in this literature review.

CHAPTER III

METHODS AND PROCEDURES

The methods and procedures followed to accomplish this study are described in this chapter. The purpose of the study was to determine the effects of a college level developmental reading class taken during the first semester of the freshman year on students' cumulative college grade point average scores and also on their ability to continue their studies as evidenced by persistence. A description of the subjects in the study and the procedures identified and followed for selecting them; the duration of the study; a description of the treatment experienced by the experimental group; and the research procedures used to compare the control groups with the experimental groups are delineated.

1. POPULATION

Description of the Population

Morehead State University accepts any high school graduate from Kentucky. Therefore, the academic test scores of entering freshmen at the university are quite low compared with national norms. In a study conducted by White (1984) using MSU students, 50 percent of the freshmen who

had the ACT test scores on file had a standard composite score of 15 or below. At this time, the standard score of 15 for the ACT composite score was equivalent to the thirty-second percentile on the national norms. This establishes the mean for the typical entering freshman class at MSU at approximately one standard deviation below the national norm. However, these scores are not clustered closely about this mean. The same study reports that about 27 percent of the freshmen had composite scores of 12 or below.

Naturally this low entry level greatly influences the students' ability to compete academically. It is understandable that four years later, fewer than 20 percent of these freshmen will earn degrees (White, 1984). The 80 percent attrition rate at MSU is almost double that of the national norm.

Selection of the Subjects

The subjects for the study consist of a sample drawn from those college students who were enrolled as first semester freshmen at Morehead State University, Morehead, Kentucky in the Fall of 1984. This freshman class had a mean cumulative ACT score of 15.88 with a standard deviation of 4.98.

Students who were transfer students were dropped from the data set as were all foreign students. Also, those students who completed high school via the GED program were not included in the study, the rationale being that maturity and/or a broader educational experience would give these groups an advantage or in the case of those who completed a GED program, a disadvantage. Since the GED students did not have grade point averages or transcripts to ascertain the strength of their accomplishment or the type of their academic experiences, it was not feasible to include this group in the study since they could not be matched on the basis of high school G.P.A. scores or academic track.

Students who have a composite ACT score below fifteen should be advised into the developmental reading course which is an elective and carries graduating credit. However, presently there is no university office or department that monitors this procedure. Those students who are undecided in terms of their major are advised by professional staff under the auspices of the Special Services Program. These advisors are strong supporters of the course and, in most cases, students in this category (Undecided with ACT scores under 15) will be placed in the course.

The group of students most unlikely to be placed are those students who plan to matriculate in a two-year degree program. These are tight programs that often do not allow the student even one course elective. However, many of the

students in the two-year degree programs matriculated in a vocational track in high school and do need to improve their reading ability in order to succeed in the two-year programs in which they are enrolled.

The sample consists of those students who were advised into the course and who completed ED.EL. 110, Developmental Reading with a passing grade in the Fall of 1984, matched in pairs with other freshmen at the same school who did not take the course. Using a SAS software package, a computer program was run which matched the student pairs on the basis of gender; composite ACT scores; high school G.P.A. scores; and the type of curriculum in which the student matriculated during his or her high school years. The curriculum types were designated as academic/college preparatory, general education and vocational education. The fact that there were student matches who did not take the course for the students who did enroll in ED.El. 110 indicates that an advising problem exists.

2. VARIABLES IN THE STUDY

The predictor variables of academic achievement that were used in the study were ACT scores, high school G.P.A. scores, and academic track. While controlling for each of these, the dependent variables of cumulative college G.P.A and semesters in attendance were explored. In addition,

students were grouped by the variables of high school G.P.A. scores, academic track and gender in order to ascertain if there is any differentiation in the response variables for these particular subgroups. The independent variable was the completion of the developmental reading course by those students in the experimental group. The rationale for the choice of each of the predictor variables used for matching the pairs is as follows:

The American College Test (ACT Scores). The American College Test is a scale of general scholastic achievement that yields five scores: An English score, a mathematics score, a natural science score, a social studies score, and the composite score. The range of the composite score is from 0 to 36. The ACT composite score was used in this study because this score is a valid predictor of reading ability (Rowe, 1985; Carney & Geis, 1981). These scores are nationally normed which make it possible to compare students at MSU in terms of their entry level abilities with students at other universities. Also, researchers have found ACT and/or SAT scores to be strong predictors of college G.P.A. and persistence (Weitzman, 1983; Manski & Wise, 1983; Astin, 1975). Students in this study were matched with no more than a two-point range in ACT scores; consequently, a student with an ACT standard score of 15 could possibly be matched with a student with an ACT score of 14, 15, or 16 (See Table XXIII--Computer Generated Pairs--Appendix A).

High School G.P.A. The research indicates (Keimig, 1983; Heerman, 1981; Astin, 1985, p. 212) that high school G.P.A. scores and rank in class are the best predictors of success in college. This remains true despite the fact that grades are often given on a subjective basis and grade inflation has become a national phenomena (National Commission on Excellence in Education, 1983). It may be that high school G.P.A. is a better measure of self discipline and motivation than it is of academic accomplishment.

Students in this study were matched on the basis of their high school G.P.A. scores within a range of .5 on the basis of a 4.0 scale. This methodology should have generated six subgroups of students based on high school G.P.A. scores; however, the students who had a high school G.P.A. score above 3.5 were grouped with those students who had G.P.A. scores ranging from 3.0 to 3.5. This was necessary because only four students with G.P.A. scores above 3.5 elected to take the developmental reading class. This was not enough to warrant a subgroup for statistical analysis in this range (See Table XXIII, Appendix A). This was true for those students in the 1.0 to 1.5 range as well. Students in this range usually do not go to college and no matches were found in this category. Consequently, the category was dropped.

Academic tracks. The type of courses that a student takes in high school determines to a great extent how well

prepared the student is for college. In an effort to develop a prediction equation for a university that only accepts students from the top half of the high school class, Rowe (1985) found the three best predictors to be ACT scores and high school G.P.A. scores coupled either with the college preparatory curriculum or with advanced placement. Matching students by the type of academic track in which they matriculated strengthens the equivalence of the high school G.P.A. scores. In addition, controlling on the basis of the type of academic track establishes greater internal validity related to the matching on the basis of high school G.P.A.

Gender. Developmentally, certain needs, motives, and values remain constant across both sexes (autonomy, self-definition, developing a philosophy of life); however, there also are gender differences in needs, motives, and values and these differences impinge upon the decisions students make to persist in higher education or to drop out. Men and women withdraw in about equal proportions (Cope, 1975; Knoell, 1960; Astin, 1985) but for very different reasons.

Knoell (1960) found that three times more men withdraw for academic reasons than women. Also, men are more likely to stop out during their undergraduate years, particularly at large, nonselective universities, but are more likely to return and eventually graduate (Ramist, 1981). Panges and

Creedon (1978), concluded that women generally drop out for personal reasons and men for curricular reasons.

Using a regression analysis technique, Bean (1980) found that the total explanatory power of his research model in the prediction of dropout was much stronger for women than men (.21 for females and .12 for males as measured by the adjusted R squared). Also, institutional commitment was a more significant predictor for women than for men accounting for 47 percent of the total variance for women but only 29 percent of the variance for men. Perhaps, the most important finding of this study was that satisfaction was related to institutional commitment for women but not for men. Men left the university even though they were satisfied; whereas, women who were satisfied were more committed to the university and less likely to leave. Because the patterns, predictability, and motivation for student departure from higher education differ between men and women, gender was designated as an important variable to be investigated in this study both in relationship to attrition and G.P.A.

3. DURATION OF THE STUDY

The duration of the study relates to the treatment dimension and the evaluation dimension. The treatment dimension spans a seventeen week period. The first and the

last weeks of the semester were devoted to administering the reading pretest and the posttest. The remaining fifteen weeks were devoted to instruction.

The evaluation dimension spans a five year period beginning during the Fall of 1984 and continuing until the end of the Spring semester of 1989. This five year span grants underprepared students additional time to complete their programs. Eckland and Henderson (1981) found that only 11.6 percent of students in the lowest quartile graduate on schedule.

4. DESCRIPTION OF THE TREATMENT

The treatment involved the completion with a passing grade of a three semester hour elective course in college developmental reading. The course structure appears to be a hybrid of those types described in the literature. The course is not an isolated skills course in that it is supported by advising, tutoring, and counseling provided by the university's Special Services Program. However, the student may not receive any of these services unless the student has an advisor that directs the student toward these services. This usually does not happen unless the student has a Special Services or an elementary education advisor. These advisors have a closer professional alliance with the course as well as with the support services.

The students had the advantage of individualization in terms of instructional levels as well as the support of a teacher to prescribe, monitor, and evaluate the students' work. Individualization and monitoring of student progress are accomplished by the use of contingency contracts and the scheduling of individual conferences with the student. The contingency contract allows the students to negotiate the grade they want in relationship to the amount of time they are willing to spend in order to make a particular grade. Students are expected to attend all class sessions, complete most of their vocabulary study and the reading for their journal outside of class for a grade of "C". For each hour in class, the student is expected to work an additional hour outside of class to receive a "B" grade on the contract. A student who receives an "A" grade is required to work two hours outside of class for each hour in class. The course instructor gives a time allowance for each activity that is prescribed in the contract and the length of the contract is two weeks or five-class periods. The amount of work assigned on each contract is determined by the grade the student chooses to elect.

Students are placed at their instructional level for vocabulary instruction and skill development. Students are asked to purchase a text either in the EDL Word Clues series (Morris, McDonald, Joline, & Petraske, 1979) or in the Wordskill series (Coomber, Peet, & Glatthorn, 1979) for

vocabulary study. The level for placement is determined by the students' subtest scores on the vocabulary section of the Minnesota Reading Assessment (Raygor, 1980). The programmed Word Clues books are leveled (grade seven through twelve) and the target vocabulary is presented in three different contextual frames. Word Skill has the same levels and a variety of activities to complete using the target words in context with their variant forms.

In a two-week instructional span, students are expected to read and study the material on a minimum of fifty words. They are required to keep a vocabulary notebook in which they make an entry for each target word. The entry should include the part of speech, the definition, and an original sentence. They also take a multiple choice test over the fifty words.

Ten minutes of each class period are devoted to uninterrupted sustained silent reading (USSR). Paperback novels are provided for the students. These also may be taken outside of class and are used for the reading journal (See course syllabus, Appendix B).

All students are placed at their independent reading level in Timed Readings (Jamestown Publishers, 1970). This text is used to increase reading speed and is also leveled from fourth grade through twelve. The text contains timed reading passages followed by comprehension questions. Since these passages are of equal length (300 words), it is

possible to conduct the timed readings as a group activity with students placed at a variety of levels. Eight timed readings per contract are required. Students work to increase their reading rate during each class period and as part of each contract.

All students study Latin and Greek word parts. A variety of materials are available for this purpose. Texts that are particularly useful in this endeavor are The Now Student (Spargo, 1982); Be a Better Reader (Smith, 1976); and Tactics Kits Level II and III (Scott-Foresman, 1975).

Students are placed in Reading in the Content Fields (Spargo & Harris, 1985) according to their majors or expressed need. The subskills of reading comprehension are addressed by placing students at their instructional level in the Barnell-Loft Specific Skills Series (Boning, 1977) or the Jamestown Comprehension Skills Books (Williston, 1989). Other materials are available, but these are the materials that every student was assigned at some time during the course.

The faculty for the course are assigned to the Department of Elementary, Reading and Special Education. In addition to one or two sections of developmental reading, each faculty member who teaches in the program will also teach graduate or undergraduate reading methods classes for students majoring in education.

5. DATA COLLECTION PROCEDURES

1. Those first-time freshmen at Morehead State University who took ED.EL. 110, Developmental Reading in the Fall of 1984 were administered Form A of THE MINNESOTA READING ASSESSMENT (Ragor, 1980) as a pretest and as a posttest. The MINNESOTA READING ASSESSMENT was normed on college students and provides subtest scores for vocabulary, rate, and comprehension plus a total score.

A student pool of one hundred fifty-seven students matriculated in ED.EL. 110, Developmental Reading in the Fall of 1984. Eight students were dropped from the study because they had no ACT scores on record. Eleven more students (nine sophomores and two juniors) were dropped because they were not first semester freshmen. This left a student pool of one hundred thirty-eight developmental reading students from which the matches were drawn. These had a mean cumulative ACT score of 12.14 with a standard deviation of 3.58.

The experimental group drawn from the above pool and their matched pairs had a mean ACT score of 11.92.

The one hundred thirty-eight developmental reading students used for the data pool had a mean total raw score of 65.52 on the reading pretest. This score represented the total score of both the vocabulary and comprehension subtests. Using the four-year college reference norm tables

(Raygor, 1980, pp. 28-29), this raw score was the equivalent of a percentile rank of ten. The mean posttest score on Form A of the MINNESOTA READING ASSESSMENT was 71.16. This score was converted to a percentile rank of sixteen. The mean percentile gain score from the pretest to the posttest was 5.637. This represented an improvement in the students' status relative to the reference group at four-year colleges and universities.

In addition, a t-test for matched pairs was used (Clayton, 1984) to determine if the mean growth represented a significant statistical difference. The mean difference of 5.637 was a significant difference at the .05 level of confidence. These students then became the data pool for the experimental group from which the matches were drawn.

2. The Fall 1984 student data base and history data base were used as a basis for establishing the matched pairs. This file contained ACT scores and high school G.P.A. scores on most of the students. However, no indication of curriculum type was available. The high school transcripts which were on microfilm for each of the 1569 freshmen were evaluated by the researcher using the criteria stated in the definition of terms to determine what type of track each student had completed. In addition the final G.P.A. scores for 627 students also had to be computed. This information was then added to the student data base. Next, the data were transferred from the administrative system into a file the

researcher had established on the academic system. The names were removed from the file by a programmer in the Office of Computing Services at Morehead State University to insure student anonymity.

A preliminary study was conducted to determine the parameters which would be used to establish the matched pairs. Using the SAS computer software package available at Morehead State University's Computer Center, a computer program was run seeking an exact student match on the following: ACT composite score, type of high school curriculum, gender, and high school grade point average for a pair of students (one who had taken developmental reading and one who had not taken the course). No matches were generated using this degree of precision on the four variables.

Next, the parameters on the continuous variables of ACT scores and high school G.P.A. scores were expanded until the following parameters were set for these variables: ACT composite scores were allowed a two-point range of variability and high school G.P.A. scores were allowed a 0.5 range of variability (See Table XXIII, Appendix A.).

Using these parameters, seventy-four matched pairs were found in the data set. Forty-four of the pairs were masculine and thirty of the pairs were feminine.

Forty-five of the matched pairs matriculated in a general track in high school: twenty six of these pairs were

male and nineteen of the pairs were female. Eleven of the matched pairs matriculated in a vocational track in high school: seven of these pairs were male and four were female. Eighteen pairs of students matriculated in an academic track: eleven pairs were male and seven were female.

3. In order to establish the verity of ED.EL. 110, Developmental Reading as the independent variable relative to reading improvement, the following procedures were used:

3.a. The transcripts of the students in the experimental group were checked to ascertain that the students did not complete any other college level developmental reading class later in their academic program.

3.b. The transcripts of the students in the control group were checked to ascertain that the students did not complete any college level developmental reading classes later in their academic program.

3.c. The course folios included in the General Education Program of Studies were examined. Any of these courses which include an objective relative to planned instruction to help students improve their reading ability would have been noted. If either student in the matched pair had taken that particular class, that pair of students would have been dropped from the study. However, no course folio was found that contained an objective related to reading improvement.

3.d. The program folios of the academic majors were examined to see if any of the course folios include an objective related to reading instruction.

If any of these majors had included classes which designated reading improvement as a course objective, student pairs who had taken that class would have been dropped from the study. However, no course was found that had such an objective. Since these procedures were followed, it is assumed that any instruction the students received with their own reading improvement outside ED.EL. 110, was incidental and that the occurrence of such instruction was a chance event.

4. Using the student data base for the Fall of 1984 and each subsequent semester until the Spring of 1989, student persistence was checked to determine the length of the enrollment period.

5. The survey data for each student was entered into the Prime 9955 computer and analyzed using a statistical software package, Minitab (Ryan, Joiner, & Ryan, 1985).

Statistical Technique

The statistical technique in this study involved the use of the t-test for matched pairs with significance at the .05 level (Clayton, 1984). In this design, each subject in the Developmental Reading Group was matched as closely as

possible on the designated variables (gender, high school G.P.A., composite ACT, and the type of academic track) with a subject in the second group of freshmen who did not take the course. Those students who took the course were designated as the experimental group and those students who did not take the course were designated as the control group. Each of these variables were explored while controlling for the others. Using a t-test for significance, the mean G.P.A. scores and the mean number of semesters in attendance for the following student groups were compared:

1. The experimental group who took the developmental reading class with the control group who did not take the developmental reading class.

2. The male students in the experimental group with the male students in the control group.

3. The female students in the experimental group with the female students in the control group.

4. The male students in the experimental group with the female students in the experimental group.

5. The experimental group who took a vocational track in high school with the control group who took a vocational track in high school.

6. The experimental group who took a general track in high school with the control group who took a general track in high school.

7. The experimental group who took an academic track in high school with the control group who took an academic track in high school.

8. The experimental group of students who had a high school G.P.A. > 3.0 and ≤ 4.0 with the control group who had a high school G.P.A. > 3.0 and ≤ 4.0 .

9. The experimental group of students who had a high school G.P.A. > 2.5 and ≤ 3.0 with the control group with a high school G.P.A. of > 2.5 and ≤ 3.0 .

10. The experimental group of students with a high school G.P.A. of > 2.0 and ≤ 2.5 with the control group of students with a high school G.P.A. of > 2.0 and ≤ 2.5 .

11. The experimental group of students with a high school G.P.A. > 1.5 and ≤ 2.0 with the control group of students with a high school G.P.A. > 1.5 and ≤ 2.0 .

The following formula will be used in the tabulations.

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum d^2}{N(N-1)}}}$$

where $\bar{D}$ = the mean of the sum of the difference scores computed by subtracting the scores of the students participating in developmental reading from those that did not;

$\sum d^2$ = the sum of the distribution of difference scores squared; and

N = the number of matched pairs.

$d = x_1 - x_2$. x_1 being an entering freshman who took developmental reading and x_2 an entering freshman who did not take developmental reading.

6. SUMMARY OF CHAPTER III

This chapter is a presentation of the methods and procedures which were used to establish the controls for the study. How the subjects were selected and the research relative to the choice of each of the variables is explained. A brief synopsis describing the treatment the experimental group underwent during their experience in the developmental reading class; the materials that were used; the data collection procedures followed for establishing each of the subgroups is given. The statistical procedures that were followed are explained.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter contains the statistical analysis of the data relevant to the evaluation of the efficacy of a college developmental reading course in improving student performance in terms of grades and persistence. The study compares student groups who participated in guided activities directed toward reading improvement via the course ED.EL. 110, Developmental Reading (the experimental groups) with student groups who did not receive such instruction (the control groups). Using a t-test for matched pairs, the statistical analyses were computed comparing the mean cumulative G.P.A. scores and the mean semesters in attendance for the entire group first and then for each subgroup. This procedure tested the six major hypotheses and the related subhypotheses stated in Chapter I. The .05 confidence level was chosen as the level appropriate for the rejection of the null hypotheses.

These data are presented in the following tables. The order of presentation parallels the order of the hypotheses stated in Chapter I and corresponds with the statistical technique outlined in Chapter III.

1. FINDINGS

Hypothesis One

The first hypothesis states:

There is no significant difference between the mean grade point averages at the end of their college enrollment of those students who completed Ed.El. 110, Developmental Reading and those students who did not take the course when matched in pairs.

The t-test for matched pairs was used to test this hypothesis in order to determine if the difference between the means of the matched pairs was significant (see Table I).

TABLE I

COMPARISON 1--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP AND THE CONTROL GROUP ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
74	0.10	1.162	0.78*	.44

*Not significant at the .05 level of confidence.

Hypotheses 1.a, 1.b

These subhypotheses deal with the experimental and control groups after each group has been subdivided by

gender. Again, the t -test for matched pairs was used to test hypotheses 1.a and 1.b. The hypotheses state:

1.a. There is no significant difference between the mean grade point averages at the end of their college enrollment of those male students who completed ED.EL. 110, Developmental Reading and those male students who did not take the course when matched in pairs.

1.b. There is no significant difference between the mean grade point averages at the end of their college enrollment of those female students who completed ED.EL. 110, Developmental Reading and those female students who did not take the course when matched in pairs.

At the .05 level of confidence, being a member of either group did not make a significant difference. Participants in the experimental group were no more likely to have a higher cumulative grade point average at the end of their college experience than participants in the control group. This was true for the entire group as well as for both males and females when the group was broken down by gender. Consequently, the null hypotheses were accepted for hypotheses 1, 1.a, and 1.b (see Tables II and III).

Hypothesis 1.c

There is no significant difference between the mean grade point averages at the end of their college enrollment of those male students who completed ED.EL. 110, Developmental Reading and the mean grade point average scores of those females who completed the course.

At the college level, more men leave college for academic reasons than do females (Bean, 1980). For this

TABLE II

COMPARISON 1.a--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL MALES AND THE CONTROL MALES ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
44	.007	0.181	0.04*	.97

*Not significant at the .05 level of confidence.

TABLE III

COMPARISON 1.b--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN THE MEANS OF THE EXPERIMENTAL FEMALE AND THE CONTROL FEMALES ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
30	0.251	1.116	1.25*	.233

*Not significant at the .05 level of confidence.

reason, it is of interest to determine if a college level developmental reading course is more helpful to one sex than to the other. Table IV presents data only for students in the experimental group by comparing the males with the females. Although these students are not matched pairs, each participant was randomly chosen by a computer search.

The data were not pooled in order to gain a more conservative estimate and to lessen the possibility of

making a Type 1 error (chance of claiming there is a difference when in actuality there is not a difference). The assumptions for randomness, a normal distribution, and homogeneity of the groups were met making the use of a t-test for independent samples appropriate (Minitab Handbook, 1985, p. 185).

TABLE IV

COMPARISON 1.c--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL MALES AND THE EXPERIMENTAL FEMALES ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

Group	N	Mean	St. Dev.	t	p
Exp. Male	44	2.080	0.810	1.27*	.21
Exp. Fem.	30	2.310	0.785		

*Not significant at the .05 level of confidence.

These data indicate that the course did not help the males who took the course more than the females.

Hypothesis Two

Hypotheses 2, 2.a, and 2.b state:

2. There is no significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs.

2.a. There is no significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those male students who completed ED.EL. 110, Developmental Reading and those male students who did not take the course when they are matched in pairs.

2.b. There is no significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those female students who completed ED.EL. 110, Developmental Reading and those female students who did not take the course when they are matched in pairs.

The analyses of these data are presented in

Tables V-VII.

TABLE V

COMPARISON 2--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP AND THE CONTROL GROUP ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
74	-0.459	6.091	-0.65*	.52

*Not significant at the .05 level of confidence.

TABLE VI

COMPARISON 2.a--CRITICAL RATIO SCORES OF THE DIFFERENCE
BETWEEN MEANS OF THE EXPERIMENTAL MALES AND THE CONTROL
MALES ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
44	-0.091	5.858	-0.10*	.92

*Not significant at the .05 level of confidence.

TABLE VII

COMPARISON 2.b--CRITICAL RATIO SCORES OF THE DIFFERENCE
BETWEEN THE MEANS OF THE EXPERIMENTAL FEMALES AND THE
CONTROL FEMALES ON THE CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
30	-0.200	5.429	-0.20*	.84

*Not significant at the .05 level of confidence.

The preceding statistical analyses presented in Tables V-VII, indicate that the second null hypothesis and the related subhypotheses should be accepted. There was no significant difference between the semesters in attendance at the end of their college enrollment of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched

in pairs. This was true for the entire student group, for the male student group and for the female student group.

Hypothesis 2.c

There is no significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those male students who completed ED.EL. 110, Developmental Reading and those female students who completed the course.

Table VIII presents data only for the experimental group. The assumptions for randomness and homogeneity were met. Again, the t-test for independent samples was used.

TABLE VIII

COMPARISON 2.c--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL MALES AND THE EXPERIMENTAL FEMALES ON CUMULATIVE SEMESTERS IN ATTENDANCE

Group	N	Mean	Std. Dev.	t	p
Exp. Males	44	5.80	4.02	0.21*	.83
Exp. Fem	30	5.60	3.72		

*Not significant at the .05 confidence level.

At the .05 level of confidence, being a member of either group did not make a significant difference. Participants in the experimental male group were no more likely to persist than were the experimental female group who took the course.

Since the mean difference between the cumulative semesters in attendance of the experimental males and the experimental females was not statistically significant, the null hypothesis 2.c. was accepted.

Hypothesis Three

Next, the data were analyzed by comparing students according to their preparation program in high school.

Hypothesis three states:

There is no significant difference between the mean grade point averages of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by academic tracks.

The statistical analyses of students by their high school preparation program considered three groups and the groups are presented in the following order:

those students who completed a vocational track in high school;

those students who completed a general track in high school;

and those students who completed an academic track in high school.

These data are presented in Tables IX, X, and XI.

TABLE IX

COMPARISON 3.a--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED A VOCATIONAL TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED A VOCATIONAL TRACK IN HIGH SCHOOL ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
11	0.1115	1.302	0.29*	.77

*Not significant at the .05 level of confidence.

TABLE X

COMPARISON 3.b--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED A GENERAL TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED A GENERAL TRACK IN HIGH SCHOOL ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
45	0.278	1.166	1.60*	.12

*Not significant at the .05 level of confidence.

TABLE XI

COMPARISON 3.c--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED AN ACADEMIC TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED AN ACADEMIC TRACK IN HIGH SCHOOL ON CUMULATIVE COLLEGE GRADE POINT AVERAGE SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
18	-0.333	1.013	-1.39*	.18

*Not significant at the .05 level of confidence.

The statistical analyses of the data presented in Tables IX-XI indicate that the third null hypothesis should be accepted. While controlling ACT scores, high school grades, and gender there was not a significant difference in the mean college grade-point average scores between those students who completed a vocational track in high school and who took ED.EL. 110, Developmental Reading and those who completed a vocational track in high school and did not take the course.

This was also true of those students who completed either a general track in high school or an academic track. The lack of a significant difference between the mean cumulative grade point average scores of the experimental and control groups prevailed regardless of the high school preparation program of the group being considered.

Hypothesis Four

This hypothesis states that:

There is no significant difference between the mean grade point averages of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by high school G.P.A. scores.

The statistical analyses of these data are presented in Tables XII, XIII, XIV and XV.

TABLE XII

COMPARISON 4.a--STUDENTS WITH HIGH SCHOOL G.P.A. SCORES
> 1.5 < = 2.0; CRITICAL RATIO SCORES OF THE DIFFERENCE
BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND THE CONTROL
GROUP ON CUMULATIVE COLLEGE G.P.A. SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
10	-0.560	1.278	1.39*	.20

*Not significant at the .05 level of confidence.

TABLE XIII

COMPARISON 4.b--STUDENTS WITH HIGH SCHOOL G.P.A.
SCORES $> 2.0 \leq 2.5$; CRITICAL RATIO SCORES OF THE
DIFFERENCE BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND
THE CONTROL GROUP ON CUMULATIVE COLLEGE G.P.A. SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
19	-0.060	1.419	-0.18*	.86

*Not significant at the .05 level of confidence.

TABLE XIV

COMPARISON 4.c--STUDENTS WITH HIGH SCHOOL G.P.A.
SCORES $> 2.5 \leq 3.0$; CRITICAL RATIO SCORES OF THE
DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP AND THE
CONTROL GROUP ON CUMULATIVE COLLEGE G.P.A. SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
24	0.135	1.061	0.62*	.54

*Not significant at the .05 level of confidence.

TABLE XV

COMPARISON 4.d--STUDENTS WITH HIGH SCHOOL G.P.A. SCORES $> 3.0 \leq 4.0$; CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP AND THE CONTROL GROUP ON CUMULATIVE COLLEGE G.P.A. SCORES

N of Pairs	Mean Diff	Std. Dev.	t	p
21	-0.118	0.7884	0.69*	.50

*Not significant at the .05 level of confidence.

The statistical analyses of the data presented in Tables XII-XV indicate that the fourth null hypothesis should be accepted. While controlling for ACT scores, high school grades, gender, and the type of academic track completed in high school, there was no significant difference between the mean cumulative college grade point average scores of the experimental groups and the control groups.

This was true for those high achievers in high school (G.P.A. $> 3.0 \leq 4.0$); those in the middle range (G.P.A. $> 2.5 \leq 3.0$) or (G.P.A. $> 3.0 \leq 2.5$); and for those low achievers in high school (G.P.A. $> 1.5 \leq 2.0$).

Hypothesis Five

Hypothesis five states that:

There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110 Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by academic tracks.

The statistical analyses of these data are presented in

Tables XVI, XVII, and XVIII. Three groups were considered:

those students who completed a vocational track in high school;

those students who completed a general track in high school;

and those students who completed an academic track in high school.

TABLE XVI

COMPARISON 5.a--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED A VOCATIONAL TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED A VOCATIONAL TRACK IN HIGH SCHOOL ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
11	-0.18	5.88	-0.10*	.92

*Not significant at the .05 level of confidence.

TABLE XVII

COMPARISON 5.b--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED A GENERAL TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED A GENERAL TRACK IN HIGH SCHOOL ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
45	0.556	5.566	0.67*	.51

*Not significant at the .05 level of confidence.

TABLE XVIII

COMPARISON 5.c--CRITICAL RATIO SCORES OF THE DIFFERENCE BETWEEN MEANS OF THE EXPERIMENTAL GROUP WHO COMPLETED AN ACADEMIC TRACK IN HIGH SCHOOL AND THE CONTROL GROUP WHO COMPLETED AN ACADEMIC TRACK IN HIGH SCHOOL ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
18	-2.17	5.49	-1.67*	.11

*Not significant at the .05 level of confidence.

The statistical analyses of the data presented in Tables XVI-XVIII indicate that for all three of the above groups, the fifth null hypothesis should be accepted. While controlling for ACT scores, high school grades and gender, there was not a significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as

evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by academic tracks.

Hypothesis Six

Hypothesis six states that:

There is no significant difference in the longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference in the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by high school G.P.A. scores.

The statistical analyses of these data are presented in Tables XIX-XXII.

TABLE XIX

COMPARISON 6.a--STUDENTS WITH HIGH SCHOOL G.P.A. SCORES
> 1.5 < = 2.0; CRITICAL RATIO SCORES OF THE DIFFERENCE
BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND THE CONTROL
GROUP ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
10	-1.70	4.85	-1.11*	.29

*Not significant at the .05 level of confidence.

TABLE XX

COMPARISON 6.b--STUDENTS WITH HIGH SCHOOL G.P.A.
SCORES $> 2.0 \leq 2.5$; CRITICAL RATIO SCORES OF THE
DIFFERENCE BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND
THE CONTROL GROUP ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
19	-0.68	6.43	-0.46*	.65

*Not significant at the .05 level of confidence.

TABLE XXI

COMPARISON 6.c--STUDENTS WITH HIGH SCHOOL G.P.A.
SCORES $> 2.5 \leq 3.0$; CRITICAL RATIO SCORES OF THE
DIFFERENCE BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND
THE CONTROL GROUP ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
24	0.79	6.19	0.68*	.54

*Not significant at the .05 level of confidence

TABLE XXII

COMPARISON 6.d--STUDENTS WITH HIGH SCHOOL G.P.A.
SCORES $> 3.0 < = 4.0$; CRITICAL RATIO SCORES OF THE
DIFFERENCE BETWEEN THE MEANS OF THE EXPERIMENTAL GROUP AND
THE CONTROL GROUP ON CUMULATIVE SEMESTERS IN ATTENDANCE

N of Pairs	Mean Diff	Std. Dev.	t	p
21	-0.52	5.14	-0.47	.65

*Not significant at the .05 level of confidence.

The statistical analyses of the data presented in Tables XIX-XXII indicate that for all four of the groups related to high school grade point average scores the sixth hypothesis should be accepted. While controlling for ACT scores, academic track, and gender, there was not a significant difference in longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they are matched in pairs and grouped by academic tracks.

2. SUMMARY OF CHAPTER IV

The findings of this study derived from the preceding statistical analyses support the acceptance of each of the six null hypotheses delineated in Chapter I.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

1. SUMMARY

It was the purpose of this study to evaluate the longitudinal effects of a college level developmental reading course taken by matched pairs of first semester freshmen on the participants' (1) cumulative grade point averages and (2) their persistence as evidenced by the number of semesters in attendance. The design of the study allowed the effectiveness of the developmental reading course on various student groups to be evaluated while controlling for certain predictors of academic success identified by the literature search. These predictor variables were type of high school curriculum, high school grade point average scores and ACT scores. This was accomplished by matching the students who took the developmental reading course (the experimental group) with those students who did not take the course (the control group) on each of these predictor variables plus gender. The subgroups were established by separating the students according to the predictor variables and gender while controlling each of the other variables.

The total freshman class and all of those freshmen taking developmental reading in the Fall of 1984 constituted the data pools that were fed into the computer. A SAS computer software program was utilized to match the students. The computer match insured a random selection of students for the matched pairs and matching the students on the basis of ACT scores established a basis for a national comparison of these pairs.

The mean college cumulative G.P.A. scores and mean semesters in attendance of the experimental group and the control group were compared using a t-test for significance. Next, the same comparisons were made after dividing the group on the basis of gender. Then, those experimental males were compared with the experimental females in order to determine if the course might have been more beneficial to students of a particular gender.

After comparing students across and between sexes, they were grouped and compared both by their high school preparation program as designated by the type of academic diploma they completed in high school and by their cumulative high school G.P.A. scores. The student groups considered by academic tracks were the vocational track, the general track, and the academic track.

For the subdivision of students according to high school G.P.A. scores a .5 range was used to establish the matched pairs. This procedure generated six groups; however only

four groups were used for the final statistical analysis. Very few students with low G.P.A. scores enroll in college and very few students with high G.P.A. scores elect to take a college level reading improvement course; consequently, in order to establish groups large enough for statistical analysis, it was necessary to extend the G.P.A. range of the top group to $> 3.0 \leq 4.0$ and to drop the group with the G.P.A. range of $> 1.0 \leq 1.5$ because this group had no students in it. The student groups considered by high school G.P.A. scores were:

- (1) those with a G.P.A. > 1.5 and ≤ 2.0 ;
- (2) those with a G.P.A. > 2.0 and ≤ 2.5 ;
- (3) those with G.P.A. scores > 2.5 and ≤ 3.0 ;
- (4) and those with G.P.A. scores > 3.0 and ≤ 4.0 .

By grouping the students by each of the previously described variables, a total of twenty-two groups were established as a basis of comparison. These comparisons tested the six major hypotheses and the related subhypotheses. Data on each group were entered for statistical analysis using the Prime 9955 computer and Minitab, a statistical software package (Ryan, Joiner, & Ryan, 1985). Both the mean G.P.A. scores and the mean semesters in attendance of the experimental groups and the control groups were calculated using a t-test. Findings and conclusions based on the results of these analyses are presented in the next two sections of this chapter.

2. FINDINGS

Analysis of the data resulted in support for each of the hypotheses as well as the related subhypotheses. The first hypothesis was accepted in that there was no significant difference between the mean grade point averages at the end of their college enrollment of those students who completed ED.EL. 110, Developmental Reading and those students who did not take the course when they were matched in pairs. Neither was there any significant difference found when the variable of gender was introduced in this comparison either between or within treatment groups.

The second hypothesis related to the attrition rates of the students in the study. There was not a statistical difference between the mean semesters in attendance of those students who completed the developmental reading class and those who did not enroll in the class.

When the students were regrouped according to gender, no significant difference was found between the mean semesters in attendance of those male students who completed the course when they were compared with the males who did not take the course. The same was true of the females when the experimental females were compared with the control females.

The experimental males were also compared with the experimental females and no significant difference was found. Equivalency in attrition rates between the genders

may mean the course reduced the trend of more males dropping out or perhaps stopping out for academic reasons that females among this group (Ramist, 1981).

Hypothesis three dealt with analyzing the data according to the type of curriculum the students had experienced in high school and the possible influence of the developmental reading class on the college G.P.A. scores of these groups. Three groups were established: those students who completed a vocational track/diploma; those students who completed a general track/diploma; and those students who completed an academic track/diploma in high school. The statistical analyses of these groups confirmed the third hypothesis. No significant difference between the cumulative mean G.P.A. scores of those students who took the developmental reading class and those who did not take the class was found for any subgroup established on the basis of high school preparation.

Hypothesis four examined the difference between mean college G.P.A. scores of the experimental groups and the control groups when the students were subdivided into the four groups previously described on the basis of high school G.P.A. scores. Although there was an ascending order of college G.P.A. scores beginning with the vocational track students on one extreme of the continuum and the academic track students on the other extreme with the general track students in the middle, within each track no significant

difference was found between the mean college G.P.A. scores of the experimental group and the control group within the three groups established on the basis of high school curriculum type.

Similarly, hypotheses five and six dealt with longitudinal attrition from the Fall of 1984 to the Spring of 1989 as evidenced by the difference between the mean semesters in attendance of the experimental group and the control group when the matched pairs were grouped either by academic track (hypothesis 5) or by high school G.P.A. scores (hypothesis six). No significant difference was found between the mean semesters in attendance for any of the following groups: the experimental group in the vocational track compared with the control group in the same track; the experimental group in the general track compared with the control group in the same track; or the experimental group in the academic track compared with the control group in the same track.

Nor was any significant difference found between the mean semesters in attendance of the four groups of students established on the basis of high school G.P.A. scores. This was true for:

those students with high school G.P.A scores > 1.5

and ≤ 2.0 ;

those students with high school G.P.A. scores > 2.0

and ≤ 2.5 ;

those students with high school scores > 2.5 and ≤ 3.0 ;
and
those students with high school G.P.A.scores > 3.0
and ≤ 4.0 .

3. CONCLUSIONS

The major conclusion drawn from this study is that, longitudinally speaking, ED.EL. 110, Developmental Reading did not make a significant difference on the mean cumulative college G.P.A. scores or the rates of attrition as evidenced by the mean semesters in attendance for the students who took the course. When the students in the study were subdivided by groups using the parameters established for the purposes of this study and the experimental group was compared to the control group, these data indicated that ED.EL. Developmental Reading did not make a significant difference between the G.P.A. scores or the attrition rates of the experimental and control groups. As previously described, data were generated on the entire group and on twenty-one student subgroups established on the basis of gender, high school grades within a .5 point range, and similar academic preparation programs as determined by the type of academic preparation the student received in high school. The analyses of these data did not attenuate the major conclusion by identifying a particular student

population characterized by one of these variables on which the course had more impact.

4. IMPLICATIONS AND RECOMMENDATIONS

Obviously, a university which is only graduating approximately 20 percent of its incoming freshmen needs a unified campus-wide plan to improve the students' academic success rate. The plan should consider such factors as who can be helped, how this help is best delivered and by whom. The following implications and recommendations are based on the information gained by the literature search and the statistical analysis of the data.

Implications and Recommendations for Further Research

Further research concerning the effectiveness of ED.EL. 110, Developmental Reading should be conducted. The data on those students who enrolled in ED.EL. 110, Developmental Reading have, over the years, shown these students make a significant improvement in reading ability. However, reading improvement at any level is a function of the students' experiences across the curriculum. The relationship of these types of reading gains as opposed to those gains made via direct instruction within a course such as ED.EL. 110, Developmental Reading needs to be established.

These gains shown by the students on the posttest may be the result of the students' reading experiences across the curriculum more so than the effects of the course. Consequently, it is recommended that another study be conducted using matched pairs established by the same parameters used in this study. However, a pre and post reading survey test should be administered to both groups at the beginning and at the end of their first semester of enrollment. The control group in this study were not evaluated on a reading test. A t-test could then be run to determine if there is a significant difference in reading gains for the students who took the developmental reading course when compared to those students who did not take the course. This type of study would establish whether the history within the course or the total academic history during the first semester of enrollment is the true independent variable related to reading improvement.

The design of this study dealt with aggregate data and not with individual improvement per se. Students who take the course represent a broad spectrum of achievement related to individual growth in reading ability. A regression analysis should be run to determine the potency of individual growth as it relates to grade point average scores and attrition. A study regressing the amount of improvement in reading ability established by pre and posttesting against both G.P.A. scores and attrition should

be conducted. Three analyses based on the proximity of the students' progress to a criterion level (12.5 is recommended) could be run: those who did not reach the criterion level; those who fell within the standard error of measurement of the criterion level; and those who exceeded the criterion level as indicated by the standard error of measurement.

The attrition models included in this study for the most part were conducted at major universities and private institutions which do not include students of the same academic calibre as those who compose the bulk of this study. It must be pointed out that while these models identified the type of student who comprised this study (low S.E.S.; small town or rural background; first generation of family to attend college; fuzzy vocational aspirations; commuters; working part-time) as dropout prone (Astin, 1975), the students in these studies had achieved a higher educational level going in and the models did not include reading ability per se as a variable. The researcher believed that reading improvement would be a positive influential variable affecting student achievement when considering these students of lower ability. Perhaps it is not. In order to determine this, further research should be conducted employing a more complex research model. A regression analysis which includes a complex of the variables previously mentioned plus reading improvement

needs to be calculated for the underprepared student. This would enable the university to identify a cluster of viable options that could be utilized in the design of action plans to improve student academic success.

Implications and Recommendations for Collaboration with Regional High Schools

In order to help alleviate the large number of underprepared college freshmen closer collaboration and lines of communication with the feeder high schools in the region need to be established in order to strengthen the students' high school academic experience. Two types of action taken by MSU could facilitate this goal.

A criterion referenced test that identifies specific problems in the students' reading abilities should be administered to all freshmen with ACT composite scores below 15 or 17 using the new enhanced ACT scores. This could take place as part of the summer registration process in that students usually come to campus in manageable groups at this time. The results of these test scores should be reported back to the feeder high schools. This information provided to the high schools could become an enabling factor in providing the basis for strengthening those curriculum areas that appear to contribute to the deficits in the basic skills of their graduates. These kinds of procedures are

already being followed by many of the universities in the Southeastern Regional Board area (Abraham, 1988).

Also, the typical recruitment effort is "Senior Night" when recruiters visit the local high schools to talk with students who had their ACT scores sent to MSU. This is often the first personal contact that the high school student experiences with an individual that provides any type of direction or establishes any sort of expectation on the part of the university. This effort should be moved to the freshman year. Students need to know how much they will enhance their academic success options by taking an academic curriculum in high school. Recruiters should share with these students data similar to that used in this study on college G.P.A. scores and attrition rates of MSU students grouped by their high school preparation programs. Because these students for the most part do not have college educated parents who can guide them in their curriculum choices, the university as well as the high school counselors need to provide a unified counseling effort as to the fallacy of taking the least demanding courses in high school.

It is recommended that the state of Kentucky identify and implement entry level statewide minimum standards and assessments for college students. The assessment should establish a criterion level in the basic skills of reading, writing and mathematics that the student must meet before

enrolling in collegiate courses that earn credit toward graduating. In this study, only one student with an ACT composite score lower than ten was able to graduate. These students should be admitted only on a provisional basis. They should be advised while in high school that their basic skills must be brought to a certain criterion level before they can be admitted to classes that carry graduating credit. As it is now, a student is not required to take any of the basic skills courses. These courses should not be electives for the underprepared student. Also, students should be advised going in that more than one semester of effort will probably be required to remediate their deficiencies.

Implications and Recommendations for Changes in Developmental Courses

The basic skills classes now in place which include Math 090, English 090, and ED.EL. 110, Developmental Reading should institute management by objectives, a flexible completion schedule, and an exit criterion level of performance at 12.5 on the CTBS test of basic skills. As it now stands, a students may enroll, work hard, show improvement, make an "A" in the class and still not bring their reading level up to a level commensurate to that of the typical college freshman.

Each semester a grade in the basic skills classes plus a study skills class could be given and up to twelve hours of nongraduating credit could be awarded to enable the student to remain classified as a full-time student for purposes of financial aid and dormitory residency. The semester the student reaches the criterion level in a particular basic skills course, three hours of graduating credit would then be awarded. Since, the students may accomplish the objectives for the separate courses within different time frames, they should be allowed to enroll in college courses within that curriculum area the following semester. For example, a student reaching the criterion level in math would be allowed to enroll in the math courses required in general education or in his or her program area the following semester. Those completing the developmental reading class would be allowed to enroll in those courses that are classified as reading courses such as sociology, psychology, history, government, etc. If the criterion level is met mid-semester, the remaining time in the basic skills class should be used to cover the beginning material in the course in which the student plans to enroll in next relative to that developmental area.

Implications and Recommendations for Faculty Incentives
to Improve the Delivery of Instruction

Several students with scores ranging from ten to fifteen were able to graduate. These students did not, however, graduate on schedule. They faced the failure of repeating course after course in an effort to graduate. Since these students have some chance of success, the following procedures related to the front end loading of resources should be implemented by the university in order to help more of this group graduate.

The high-risk courses within the general education component and within each major should be identified by accruing pass/fail statistics. It is believed that a considerable overlap between the two exists. These classes should be capped at twenty-five and staffed by faculty who have established themselves as relating well to students. Workshops on how to succeed with the underprepared students should be provided for these faculty as well as incentives. For example one type of incentive might be to designate each hour in a high-risk course as 1.3 hours of credit on the teaching load. This would be a viable incentive and give each instructor more time to develop strategies of effectiveness for working with the students.

The University of Missouri-Kansas City Model (Blanc, Debuhr, & Martin, 1982) might be adopted to provide the

students specific and immediate help within these high risk courses. Graduate assistants who have a major in the field related to the course in question should be hired to help the students. These graduate assistants would be required to take a graduate level reading course designed to explain schema theory and techniques for the storage and retrieval of information as well as study techniques (Alvermann, Moore & Conley, 1987). The assistants would conduct and schedule group study sessions to help the students outside of class and preferably at night. These sessions should be open to any student who feels he needs help.

Two of the major premises behind the requirements in a general education program are that the student will become broadly educated and this education will function as a foundation to support the student in the pursuit of advanced studies. Both groups had been enrolled approximately three years (experimental group 5.716 semesters; control group 6.176 semesters). This substantial investment of time appears to indicate that a strong motivation to graduate did exist. Students with G.P.A. scores below 2.0 are dropped after their sophomore year. The mean G.P.A. scores of both groups (experimental 2.1768; control 2.072) were uncomfortably close to the drop criteria. Removing the grade point averages of the twenty students who were able to graduate from the experimental group's data produced an average G.P.A. of 2.089. Removing the scores of the

twenty-two students who graduated from the control group produced a grade point average of 1.718. These students may not have received the academic foundation in their general education classes which would allow them to pursue a major; this supposition needs to be researched. This could be done by administering the College Outcome Measures Program (COMP) assessment available from ACT at the beginning of the student's college career and at the end of the sophomore year. This sophisticated measure of the efficacy of general education courses of an institution would provide the means to identify the particular trouble spots in the curriculum which could then be targeted for improvement. Also, placement within these classes based on entry level skills is a viable option.

The typical faculty member has no idea of the potential he carries concerning the successful integration of students into the academic life of the institution. Nor are they aware of institutional statistics related to what happens to a typical freshman at MSU. Faced with a phalanx of underprepared students in every general education class they teach, the faculty react in the only way they know how--by holding the line concerning academic standards via failing large numbers of students. Tinto's Environmental Model of Attrition (1987) and Astin's Involvement Model (1985) support the necessity of faculty-student interaction and an ethos of caring on the part of faculty in that they are the

main determiners of student persistence. Faculty need to be educated as to the importance of their role through a series of faculty development workshops on this topic. This does not mean that rigor should be abandoned but that specific faculty incentives designed to balance the rigor with special help and outreach should be explained and instituted.

Although these recommendations would require a considerable commitment in terms of financial and human resources, the return on the dollar invested would be well worth the effort. The students would be better served and the university would better fulfill its mission of serving the region.

LIST OF REFERENCES

LIST OF REFERENCES

- Abraham, A. (Ed.). (1988). Remedial education in college: How widespread is it? Issues in Higher Education, (24). Atlanta, Georgia: Southern Regional Educational Board.
- Alvermann, D. E., Moore, D. W., & Conley, M. W. (1987). Research within reach. Secondary school reading: A research guided response to concerns of reading educators. Newark, Delaware: International Reading Association.
- Ashmore, R., & Cork, K. (1984). Estimating reading grade level equivalents using the American College Testing Program. Journal of College of Student Personnel, 25, 225-228.
- Astin, A. W. (1975). Preventing students from dropping out. San Francisco: Jossey-Bass Publishers.
- _____. (1977). Four critical Years: Effect of college on beliefs, attitudes, and knowledge. San Francisco: Jossey-Bass, 1977.
- _____. (1982). Minorities in American higher education: Recent trends, current prospects, and recommendations. San Francisco: Jossey-Bass.
- _____. (1984). Student involvement: A developmental theory for higher education. Journal of College Student Personnel, 25, 297-313.
- _____. (1985). The American freshman: Norms for the Fall 1985. Los Angeles: Higher Education Research Institute, University of California.
- _____. (1985). Achieving educational excellence. San Francisco: Jossey-Bass.
- Astin, A., Korn, W., & Green, K. (1987). Trends and data: retaining and satisfying students. Educational Record, 36-42.
- Atkinson, J. W., & Birch, D. (1970). The dynamics of achievement. New York: John Wiley and Sons.
- Bandura, A. (1977). Self-efficiency: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

- Beal, O. T., & Sauer, K. (1980). Retention and attrition: Evidence for action and research. Boulder, Colorado: NCHEMS Publishers.
- Beal, P. E., & Noel, L. (1980). What works in student retention. Iowa City, Iowa: American College Testing Program, and Boulder, Colorado: National Center for Higher Education Management Systems.
- Bean, J. P. (1980). Dropouts and turnovers: The synthesis and test of a causal model of student attrition. Research in Higher Education, 12, 155-186.
- _____. (1983). The application of a model of turnover in work organizations to the student attrition process. The Review of Higher Education, 6, 155-87.
- _____. (1985). Interaction effects based on a class level in an explanatory model of college student dropout syndrome. American Educational Research Journal, 22, 35-64.
- Bean, J. P., Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. A paper presented at the annual meeting of the Association for the Study of Higher Education, Chicago.
- Blanc, R. A., Debuhr, L. E., & Martin, D. C. (1983). Breaking the attrition cycle: The effects of supplemental instruction on undergraduate performance and attrition. Journal of Higher Education, 54, 80-90.
- Boning, R. A. (1977). Barnell-Loft specific skills series. Baldwin, New York: Barnell Loft, LTD.
- Breneman, D. (1983a). Where Have All the Students Gone?. Washington, DC: Association of Governing Boards.
- Breneman, D. (1983b). The coming enrollment crisis: What every trustee should know. Washington, DC: Association of Governing Boards.
- Breneman, D. (1985). The coming enrollment crisis: focusing on the figures. Change, 15, 14-19.
- Brubacher, J. S., & Rudy, W. (1976). Higher education in transition: A history of American colleges and universities, 1636-1976. (3rd ed.). New York: Harper and Row.

- Carney, M., & Geis, L. (1981). Reading ability, academic performance and college attrition. Journal of College Student Personnel, 22, 55-59.
- Cahalan, M., & Farris, E. (1985). College level remediation [Fast Response Survey Report Number 19]. Washington, D C: Center for Statistics. (ERIC Document Reproduction Service No. ED 274 290.)
- Chickering, A. W. (1969). Education and identity. San Francisco: Jossey-Bass.
- Clayton, K. N. (1984). An introduction to statistics: for psychology and education. Columbus, Ohio: Charles E. Merrill.
- Collins, William. (1982). Developing basic skills through a learning center summer program. In L. Noel and R. Levitz. (Eds.), How to Succeed with Academically Underprepared Students: A Catalog of Successful Practices (pp. 81-83). Iowa City, Iowa: The ACT National Center for the Advancement of Educational Practices.
- Coomber, J. E., Peet, H. D., & Glathorn, A. A. (1979). Wordskill, Books 1-6. Chicago: Science Research Associates, Inc.
- Cope, R. G., & Hannah, W. (1975). Revolving college doors. New York: John Wiley & Sons.
- Cornett, L. M. (1986). Improving student preparation: Higher education and the schools working together. (Report No. HE019-640). Atlanta, Georgia: Southern Regional Educational Board, (ERIC Document Reproduction Service No. ED 273 224).
- Crockett, D. S., & Levitz, R. (1984). Current advising practices in colleges and universities. In R. B. Winston, Jr. and Associates, Developmental academic advising: Addressing students' educational, career, and personal needs. San Francisco: Jossey-Bass.
- Dallam, J. (Fall, 1984). Persistence at the regents universities of Iowa: A summary of four studies covering twenty years. College and University: The Journal of the American Association Of Collegiate Registrars and Admissions Officers, 60, 15-20.
- Devirian, M. C., Enright, G., & Smith, G. (1975). Survey of learning problems in higher education. In Twenty-Fourth Yearbook of the National Reading Conference, 1975.

- Dempsey, B. J. L. (1985). An update on the organization and administration of institutions of higher education. EDRS, 1985, HE 018 362.
- Durkheim, E. (1951). Suicide. Translated by J. A. Spaulding and G. Simpson. Glencoe: The Free Press. Originally published as Le suicide: Etude de sociologie. Paris: Felix Alcon, 1887.
- Eckland, B. K., & Henderson, L. B. (1981). College attainment four years after high school. Report prepared for the National Center of Educational Statistics, Office of Educational Research and Improvement, U.S. Department of Education, Research Triangle Park, N. C.: Research Triangle Institute.
- Ewell, P. T. (1985). Recruitment, retention, and student flow: A comprehensive approach to enrollment management research. Boulder, Colorado: NCHEMS Publishers.
- Ewell, P. T. (1984). Conducting Student Retention Studies. Boulder, Colorado: NCHEMS Publishers.
- Fairbanks, M. (1974). The effects of college reading improvement of college achievement. Twenty-third Yearbook of the National Reading Conference. Clemson, SC: The National Reading Conference, Inc.
- Forrest, A. (1982). Increasing student competence and persistence: the best case for general education. Iowa City: Iowa: American College Testing Program, National Center for Advancement of Educational Practices.
- Forrest, A. (1985). Creating conditions for student and institutional success. In L. Noel and R. Levitz (Eds.), Increasing Student Retention, (pp. 62-77). San Francisco: Jossey-Bass.
- Friedlander, J. (1980). Are college support programs and services reaching high-risk students? Journal of College Student Personnel, 21, 23-28.
- Gainous, F. (1985). Remedial/developmental student characteristics survey. Kansas Community College: Kansas. (ERIC Reproduction Service No. JC 860-482).
- Gardner, J. N. (1986). The freshman year experience. College and University. 61, (4), 261-274.
- Gardner, J. N., & Jeweler, A. J. (1989). College is only the beginning: A student guide to higher education. Belmont, California: Wadsworth Publishing Company.

- Geis, L., & Carney, M. (1979). Reading ability, college grades, and attrition: A two-year study. Twenty-eighth Yearbook of the National Reading Conference. Clemson, SC: The National Reading Conference, Inc., pp. 163-167.
- Gilbert, S. N., & Gomme, I. M. (1985). Future directions in research on voluntary attrition from colleges and universities. College and University, 60 & 61, 227-37.
- Gordon, V. (1985). Students with uncertain academic goals. In L. Noe, R. Levitz & D. Saluri and Associates (Eds.), Increasing Student Retention, pp. 116-137. San Francisco: Jossey-Bass.
- Grant, G., and others. (1979). On competence: A critical analysis of competence-based reforms in higher education. San Francisco: Jossey-Bass.
- Hallins, C. S., & Smith, M. G. (1986). Where have all the students gone? A study of attrition at John Tyler Community College. Winter 1986 to Spring 1986.
- Harris, A. J., & Sipay, E. R. (1985). How to increase reading ability: A guide to developmental and remedial methods. (8th ed.). New York: Longman.
- Heerman, C. E. (Oct., 1981). What the literature says about the college reading program and its role in retention efforts. A paper presented at the College Reading Association, Louisville, KY.
- Iffert, R. E. (1956). The study of student retention and withdrawal. College and University, 31, 435-437.
- Iwai, S. I., Churchill, W. D. (1982). College attrition and the financial support systems of students. Research in Higher Education, 17, 105-13.
- Jensen, E. L. (1981). Student financial aid and persistence in college. Journal of Higher Education, 52, 280-294.
- Jewler, A. J., Gardner, J. (1987). Step by step to college success. New York: Wadsworth Publishing Co.
- Keimig, R. T. (1983). Raising academic standards: A guide to learning improvement. ASHE-Eric Higher education research report no.4. Washington, D.C.: Association for the Study of Higher Education.
- Kohlberg, L. Stages of moral development. In C. M. Beck, B. S. Crittenden, and E. V. Sullivan (Eds.), Moral Education, Toronto University of Toronto Press, 1971.

- Knoell, D. (1960). Institutional research on retention and withdrawal. In H. T. Sprague, (Ed.). Research on College Students. (pp. 41-65). Boulder, Colorado: The Western Interstate Commission for Higher Education; and Berkeley, California: The Center for the Study of Higher Education.
- Kramer, G. L., & Spencer, R. W. (1989). Academic advising. In M .L. Upcraft & J. N. Gardner (Eds.), The Freshman Year Experience (pp. 95-107). San Francisco: Jossey-Bass.
- Larsen, M. D., & Brown, B. M. (1983). Rewards for academic advising: An evaluation. National Academic Association Journal, 3 (2), 53-60.
- Lenning, O. T., Sauer, K., & Beal, P.E. (1980). Student retention strategies. ASHE-ERIC. Higher Education Research Report No. 8. Iowa City, Iowa: American College Testing Program.
- Lonabaker, L. (Fall, 1984). Projection for the 80's: Managing student enrollment. College and University: The Journal of the American Association of Collegiate Registrars and Admission Officers. 60, 68-72.
- Lunneborg, P. (1975). Longitudinal criteria of college achievement predicted from aptitude achievement, and interests measures. Seattle, Washington: University of Washington, Educational Assessment Center.
- Marchese, T. J. (1985). Increasing student retention. San Francisco: Jossey-Bass Publishers.
- Martin, M. (1986). Strategies for maintaining excellent developmental programs in the 80's. (Report No. JC860-532). Rockland Community College, New York. (ERIC Document Reproduction Service No. ED 274-404).
- McClain, C. J. (1987). Institutional strategies: Assessment produces degrees with integrity. Educational Record, 47-51.
- McConnell, W. (1985). College enrollment projections for the eighties and nineties. In D. W. Breneman, The coming enrollment crisis: Focusing on the figures. Change, 15, 14-19.
- Mentkowski, M., & Doherty, A. L. (1984). Careering after college: Establishing the validity of abilities learned in college for later careering and professional

performance. Final Report to the National Institute of Education: Overview and Summary. Milwaukee: Alverno College.

Moore, W. (1976). Community College Response to the High-Risk Student: A Critical Reappraisal. Horizon Issues, 1. Washington, D. C.: American Association of Community and Junior Colleges, (ED 122 873).

Moore, W., Jr. (1983). Special roles with special students. In A.S. Thurston and W. A. Robbins (Eds.), Counseling: A crucial function for the 1980s. New Directions for Community Colleges, no. 43, pp. 29-47. San Francisco: Jossey-Bass.

Morris, H. F. (1979). EDL word clues, Books G, H, I, J, K, L, M. New York, New York: EDL Developmental Laboratories.

Munro, B. H. (1981). Dropouts from higher education: Path analysis of a national sample. American Educational Research Journal, 18, (2), 133-141.

National Commission on Excellence in Education. (1983). A Nation at Risk: Imperative for Educational Reform. Washington, D.C.: U. S. Government Printing Office.

Niles, O. S., Bracken D. K., Dougherty, M. A., & Kinder, R. F. (1965). Tactics in Reading I. and II. Glenview, Illinois: Scott, Foresman and Company.

Noble, J. (1986). Estimating reading skills from ACT assessment scores. College and University: The Journal of the American Association of Collegiate Registrars and Admissions Officers. 61, 310-317.

Noel, L. (1978). Reducing the dropout rate. San Francisco: Jossey-Bass Publishers.

Noel, L., & Levitz, R. (Eds.). (1982). How to succeed with academically underprepared students: A Catalog of successful practices. Iowa City, Iowa: The American College Testing Program.

Noel, L., Levitz, R., & Kaufmann, J. (Eds.) (1982). Organizing the campus for retention. Iowa City, Iowa: American College Testing Program National Center for Advancement of Educational Practices.

Noel, L., Levitz, R., & Saluri, D. (1985). Increasing student retention: effective programs and practices for reducing the dropout rate. San Francisco: Jossey-Bass.

- Olszak-McClaine, L. M. (1985). Butler County Community College Study of Attrition. (Report No. JC860-470). Butler, Pennsylvania: Butler County Community College, (ERIC Document Reproduction Service No. ED 273 318).
- Panos, R. J., Astin, A. W. (1968). Attrition among college students. American Educational Research Journal, 5, 57-72.
- Pantages, T. J., & Creedon, C. F. (1978). Studies of college attrition, 1950-1975. Educational Research, 48, 49-101.
- Parkham, J. A. (1977). Academic success of persistent and nonpersistent students voluntarily enrolled in a university reading program. Journal of Reading, 20 (8), 693-696.
- Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. Review of Educational Research, 50, 545-595.
- Pascarella, E. T. (1982). Studying student attrition. San Francisco: Jossey-Bass Publishers.
- Pascarella, E. T., & Chapman, D. (1983). A multi-institutional, path analytic validation of Tinto's model of college withdrawal. American Educational Research Journal, 20, 87-102.
- Pascarella, E., Duby, P., & Iverson, B. (1983). A test and reconceptualization of theoretical model of college withdrawal in a commuter institution setting. Sociology of Education, 56, 88-100.
- Pascarella, E., & Terenzini, P. (1979). Interaction effects in Spady's and Tinto's conceptual models of college student dropout. Journal of Behavioral Psychology, 75, 215-226.
- Pascarella, E., & Terenzini, P. (1980). Predicting freshmen persistence and voluntary dropout decisions from a theoretical model. Journal of Higher Education, 51, 60-65.
- _____. (1983). Predicting voluntary freshman year persistence/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. Journal of Educational Psychology, 75, 215-226.

- Perry, W. G. (1970). Forms of intellectual and ethical development in the college years. New York: Holt, Rinehart and Winston.
- Pervin, L. A., Reik, L. E., & Dalrymple, W. (1966). The college dropout and the utilization of talent. Princeton, New Jersey: Princeton University Press.
- Price, J. L. (1977). The Study of Turnover. Ames, Iowa: Iowa State University Press.
- Rainsford, G. N. (1985). Enrollment management from a president's perspective. College and University, 60 (4), 336-344.
- Ramist, L. (1981). College Student attrition and retention. New York: College Entrance Examination Board.
- Raygor, A. L. (1980). The Minnesota reading assessment. Rehoboth, MA: Twin Oaks Publishing, Inc.
- Roberts, George H. (1986). Developmental Education: An Historical Study. EDRS, 1986, HE 019915.
- Roemer, R. (1985). Cut federal aid to college students? (Report No. HE019-647). (ERIC Document Reproduction Service No. ED 273 231).
- Roueche, J. E. et al. (1986). Access with excellence: New directions for community colleges. 14, [3], 29-40.
- Roueche, J., Baker, G., & Roueche, S. (1986). College responses to low achieving students: A national study. Orlando, Florida: HBJ Media Systems Corporation.
- Roueche, J., & Snow, J. J. (1977). Overcoming learning problems. San Francisco: Jossey-Bass.
- Rowe, F. A., Bruce, H., Larsen, W., & Bills, D. (1985). Developing a predictive equation for admission at Brigham Young University based on high school population. College and University: The Journal of the American Association of Collegiate Registrars, 60 (2), 132-141.
- Ryan, Barbara F.; Joiner, Brian L.; & Ryan, Thomas A., Jr. (1985). Minitab handbook, (2nd ed.). Boston, Massachusetts: Prindle, Weber and Schmidt Press.
- Sanford, N. (1968). Where colleges fail: A study of the student as a person. San Francisco: Jossey-Bass.

- Sheridan, E. M. (1982). Traditional skills for nontraditional students. Improving College and University Teaching, 30 (3), 138-141.
- Smith, N. B. (1961). Be a better reader, Levels I, II, III, IV. Englewood Cliffs, New Jersey: Prentice-Hall.
- Spady, W. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. Interchange (1), 64-65.
- Spargo, E. (1989). Timed readings, Books 1-10. (3rd ed.). Providence, Rhode Island: Jamestown Publisher.
- Staley, N. K., & Smyth, T. J. C. (1979). An evaluation of the college reading program using four criteria. Twenty-Eighth Yearbook of the National Reading Conference, Inc. Clemson, SC: The National Reading Conference, Inc., pp. 182-185.
- Stodt, M. M., & Klepper, W. M. (1960). Increasing retention: Academic and student affairs, administrators in partnerships. San Francisco: Jossey-Bass Publishers.
- Taylor, B., Harris, L. A., & Pearson, P. D. (1988). Reading difficulties: Instruction and assessment. New York: Random House.
- Terenzini, P., Pascarella, E., Lorang, W., & Theophilides, C. (1986). A replication of a path analytic validation of Tinto's theory of college student attrition. Review of Higher Education, 220-231.
- Terenzini, P. T., Pascarella, E. T. (1977). Voluntary freshman attrition and patterns of social and academic integration in a university: A test of a conceptual model. Research in Higher, 25-43.
- _____. (May, 1979). Student-faculty contacts and freshman year outcomes: A replication. Paper read at the Association for Institutional Research, San Diego.
- Tillman, C. E. (1973). Four year college reading improvement programs and grades: An annotated review, 1945-1971. Journal of Reading Behavior (2), 100-109.
- Tinto, V. (1987). Leaving College: Rethinking the causes and cures of student attrition. Chicago: The University of Chicago Press.

- Tinto, V., & Wallace, D. L. (1982). Limits of theory and practice in student attrition. Journal of Higher Education, 53(6), 687-708.
- Tinto, V., & Wallace, D. L. (1986). Retention an admissions concern. College and University, 16 (4), 290-293.
- Tinto, V., & Wallace, D. L. (1988). Reflections on the longitudinal character of student leaving. Journal of Higher Education, 59, 438-455.
- Upcraft, M. L., Gardner, J., & Associates. (1989). Enhancing the Success of first year students: The freshman year experience: helping students survive and succeed in college. San Francisco, CA: Jossey-Bass.
- U.S. Department of Education. National Center for Educational Statistics. (1985). Many college freshmen take remedial courses. National Center for Education Statistics Bulletin. Washington, D. C.: U.S. Government Printing Office.
- Valverde, L. (1985). Low-income students. In L. Noel, R. Levitz, D. Saluri & Associates (Eds.), Increasing Student Retention, pp. 78-94. San Francisco, Jossey-Bass.
- Van Gennep, A. (1960). The Rites of Passage. Translated by M. Vizedon and G. Caffee. Chicago: University of Chicago Press. Originally published as Les rites de passage. Paris: Nourray, 1909.
- Voorhees, R.A. (1984). Financial aid and new freshman persistence: An exploratory model. In Tinto, V., Leaving College: Rethinking the Causes and Cures of Student Attrition. Chicago, Illinois: The University of Chicago Press.
- Waterhouse, P. G. (1978) What's so nontraditional about nontraditional students? Community and Junior College Journal, 48 (5), 39-40;
- Weitzman, R. H. (1982). The predictions of college achievement by the scholastic aptitude test and the high school record. Journal of Educational Measurement, 19, (3), 179-191.
- White, W. F. (Fall 1984). A college program to ameliorate development lag. The College Board Review, 133, 26-29.
- Williston, G. R. (1976). Comprehension skills series. Providence, Rhode Island: Jamestown Publishers.

Wright, D. J. (1984). Orienting minority students. In M. L. Upcraft (ed.), Orienting students to college. New Directions for Student Services, no. 25. San Francisco: Jossey-Bass.

Wright, R., McCue, R., & Alcantra, P. (1985). Assessment, placement: Basic skills. Kerns Community College District: California. (ERIC Document Reproduction Service No. ED 264 901).

APPENDICES

CHAMBERLAIN & CO. BOSTON

APPENDIX A

COMPUTER GENERATED PAIRS OF STUDENTS

TABLE XXIII

COMPUTER GENERATED PAIRS OF 1984 MSU FRESHMEN WHO DID/DID NOT TAKE
DEVELOPMENTAL READING MATCHED ON FOUR VARIABLES

High School GPA Range of Scores	Diploma Types												Sex
	Academic				General				Vocational				
> 3.5 < = 4.0													
0	0	0	1	1	1	1	1	1	0	0	0	0	M
1	0	1	1	2	3	3	3	3	0	0	0	0	F
> 3.0 < = 3.5													
2	3	3	3	3	3	3	3	3	0	0	0	0	M
3	3	3	3	9	8	9	9	9	0	1	0	1	F
	3	4	4	4	9	8	9	9	3	3	3	4	M
	4	4	3	4	2	3	3	3	2	1	2	2	F
> 2.5 < = 3.0													
5	4	5	4	11	10	12	9	9	0	0	0	0	M
0	0	0	1	3	3	3	3	3	1	2	3	0	F
> 1.5 < = 2.0													
0	0	1	1	3	4	5	4	4	2	4	4	0	M
0	0	0	0	2	2	2	2	2	0	0	0	0	F
Group Totals	18	18	20	22	45	45	50	46	8	11	11	11	
Amount of Range in ACT Scores													
Points:	1	2	3	4	1	2	3	4	1	2	3	4	

Legend:
 Variables - Groups
 Gender - M-F
 H.S. G.P.A. - 5 Groups
 ACT Scores - 4 Groups
 Diploma Type- 3 Groups

TABLE XXIV

MATCHED PAIRS OF STUDENTS WHO COMPLETED A VOCATIONAL TRACK/DIPLOMA IN HIGH SCHOOL

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
1.	2.900*	M	12	1.714	7	
	3.000	M	13	1.485	4	
2.	2.630	M	9	2.111	2	
	2.960	M	11	2.500	6	
3.	2.670*	M	10	2.729	9	
	2.670	M	10	2.200	2	
4.	1.650*	M	19	3.650	5	AB/87
	1.700	M	20	1.597	6	
5.	1.790*	M	13	0.286	1	
	1.700	M	14	2.261	10	
6.	2.000	M	10	2.833	1	
	1.979	M	9	1.234	5	
7.	1.580*	M	10	1.250	1	
	1.790	M	10	1.538	4	
8.	3.000*	F	16	2.805	12	BS/88
	2.900	F	15	1.417	1	
9.	2.640*	F	10	1.982	5	
	2.990	F	09	0.775	6	
10.	2.390*	F	13	0.750	2	BS/87
	2.200	F	14	2.844	8	
11.	2.070*	F	10	0.595	4	
	2.120	F	11	0.429	2	

*Completed ED.EL. 110, Developmental Reading.

TABLE XXV

MATCHED PAIRS OF STUDENTS WHO COMPLETED A GENERAL TRACK/DIPLOMA IN HIGH SCHOOL

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
1.	3.520*	M	19	2.897	12	AB/87
	3.550	M	18	3.409	7	
2.	3.290*	M	16	2.178	10	
	3.400	M	16	2.421	4	
3.	3.200*	M	13	2.969	9	AB/87 AAS/86
	3.410	M	14	3.156	10	
4.	3.460*	M	10	2.770	11	AB/88 AAS/85
	3.130	M	09	3.132	9	
5.	2.591*	M	13	1.733	1	
	2.750	M	13	1.000	1	
6.	2.650*	M	14	2.250	3	AB/87
	2.600	M	12	2.644	11	
7.	2.840*	M	12	2.000	1	
	2.950	M	14	2.516	2	
8.	2.640*	M	12	2.829	7	AAS/86
	2.830	M	13	0.281	3	
9.	2.750*	M	13	2.739	14	AB/88
	3.000	M	14	1.773	02	
10.	2.600*	M	14	2.183	06	AB/87
	2.660	M	13	3.164	08	
11.	2.650*	M	10	0.462	01	
	2.780	M	10	1.536	02	
12.	2.790*	M	11	2.700	09	
	2.800	M	10	0.400	01	
13.	2.100*	M	16	2.586	10	AB/88 BS/88
	2.090	M	15	2.936	12	

TABLE XXV (continued)

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
14.	2.490* 2.500	M M	14 12	2.508 1.000	09 03	BBA/88
15.	2.390* 2.050	M M	12 14	2.588 2.391	08 02	BBA/87
16.	2.160* 2.200	M M	12 14	3.015 0.875	11 02	BS/88
17.	2.070* 2.480	M M	13 12	2.370 3.265	11 04	AAS/85
18.	2.343* 2.270	M M	11 10	2.417 0.000	10 01	AB/88
19.	2.100* 2.300	M M	10 11	1.976 2.375	04 11	AB/88
20.	2.060* 2.140	M M	10 11	1.712 2.694	04 14	
21.	2.180 2.400	M M	10 11	0.750 2.508	01 10	
22.	2.310* 2.420	M M	07 08	1.026 0.667	04 01	
23.	2.000* 2.000	M M	13 14	1.615 1.450	02 04	
24.	1.830* 1.600	M M	13 13	2.345 1.038	02 02	
25.	2.000* 1.785	M M	11 10	1.510 2.308	04 04	
26.	1.870* 1.970	M M	09 09	1.036 0.448	02 02	
27.	4.000* 3.700	F F	15 15	3.079 3.327	09 04	AM/87

TABLE XXV (continued)

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
28.	3.600*	F	12	1.111	03	
	3.600	F	14	2.000	02	
29.	3.690*	F	11	2.722	04	
	3.700	F	10	3.000	01	
30.	3.130*	F	18	3.219	08	AB/87 AAS/86
	3.070	F	20	2.706	06	
31.	3.080*	F	15	1.879	02	AB/87
	3.280	F	16	3.523	10	
32.	3.040*	F	17	2.389	06	AAS/86 BS/88
	3.050	F	17	2.841	11	
33.	3.180*	F	12	2.887	09	BBA/87
	3.290	F	13	3.125	13	
34.	3.340*	F	13	2.980	11	AB/89
	3.360	F	13	2.008	11	
35.	3.170*	F	11	2.846	01	BS/8
	3.150	F	10	2.331	09	
36.	3.050*	F	10	2.310	10	BSW/88
	3.480	F	10	1.898	12	
37.	3.090*	F	06	1.519	05	
	3.200	F	07	1.111	02	
38.	2.950*	F	10	3.100	02	
	2.670	F	10	0.667	02	
39.	2.900*	F	11	2.400	10	AB/88
	2.660	F	09	1.556	03	
40.	2.850*	F	11	1.250	02	
	2.700	F	10	3.016	09	
41.	2.210*	F	13	2.211	04	
	2.140	F	12	1.500	04	

TABLE XXV (continued)

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
42	2.140*	F	12	2.465	03	
	2.170	F	12	2.376	14	
43.	2.250*	F	09	2.250	03	
	2.500	F	10	0.000	01	
44.	1.846*	F	12	1.900	01	
	1.680	F	12	0.526	02	
45.	1.516*	F	06	1.731	08	
	2.000	F	06	0.000	01	

*Completed ED.EL. 110, Developmental Reading.

TABLE XXVI

MATCHED PAIRS OF STUDENTS WHO COMPLETED AN ACADEMIC TRACK/DIPLOMA IN
HIGH SCHOOL

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
1.	3.080*	M	20	2.707	06	BS/88
	3.500	M	20	3.615	13	
22	3.200*	M	13	2.906	12	
	3.500	M	13	2.208	06	
3.	3.130*	M	13	2.444	02	AB/89
	3.100	M	14	2.906	09	
4.	2.770*	M	15	0.885	02	BS/88
	2.654	M	17	2.654	08	
5.	2.740*	M	13	1.857	01	BBA/88
	2.980	M	13	2.461	12	
6.	2.920*	M	13	3.194	09	BBA/87
	2.840	M	14	2.557	09	
7.	2.700*	M	13	2.634	11	
	2.640	M	14	2.869	04	
8.	2.240*	M	18	2.245	08	BBA/87
	2.260	M	18	2.018	08	
9.	2.460*	M	12	1.462	02	BA/88
	2.320	M	13	2.394	09	
10.	2.050*	M	12	0.966	05	AB/87
	2.200	M	12	3.262	08	
11.	2.020*	M	10	0.510	02	
	2.190	M	11	1.983	04	
12.	3.480*	F	15	3.636	02	AB/87
	3.450	F	17	3.192	08	
13	3.290*	F	13	3.264	09	AB/88
	3.290	F	13	1.756	04	

TABLE XXVI (continued)

Pr	HS/GPA	SEX	ACT	C/GPA	SEM	DEGREE
14.	3.250*	F	10	1.472	04	AB/88
	3.180	F	10	2.984	10	
15.	2.680*	F	13	2.880	11	AB/88
	2.850	F	13	2.786	09	BS/87
16.	2.550*	F	13	3.400	01	
	2.690	F	12	2.500	10	
17.	2.560*	F	13	2.288	04	
	2.540	F	14	2.440	02	
18.	2.710*	F	11	2.286	13	BS/87
	2.710*	F	11	2.453	10	AB/88

*Completed ED.EL. 110, Developmental Reading.

APPENDIX B

COURSE OUTLINES AND RELATED MATERIALS

Course Syllabus

Course: ED.EL. 110, Developmental Reading

Prerequisites: None

Catalog Description:

Provides a diagnostic independent guided improvement of reading skills. Vocabulary acquisition and improved comprehension skills are stressed.

Course Content:

Determined on the basis of individual need as indicated by scores obtained on diagnostic reading and study skills tests.

1. Study of affixes
2. Vocabulary drills and exercises
3. Exercises in comprehension
4. Word recognition exercises
5. Review of study skill activities
6. Timed reading exercises
7. Sustained Silent Reading--with informal recalls

Course Objectives:

1. To help the student reach his potential in word-attack and word analysis skills
2. To help the student increase his reading vocabulary
3. To help the student improve his study skills
4. To help the student improve his comprehension skills
5. To help the student develop flexibility in reading speed

Terminal Behavioral Objectives and/or Competencies:

Upon completion of the course the student will score one or more grade levels above his pretest score on a standardized test.

Evaluation Procedures:

1. Scores obtained on pre- and posttests.
2. Student's grade determined by attendance, attitude, completion of assigned tasks and tests appropriate for his development.

**MOREHEAD STATE UNIVERSITY
COLLEGE OF EDUCATION
Course Description**

COURSE: ED.EL. 110, Developmental Reading I. (1-2-2)

PREREQUISITES: None

CATALOG DESCRIPTION:

Provides a diagnostic independent improvement of reading skills. Vocabulary and improved comprehension skills are stressed.

PROGRAM REQUIREMENTS: Elective course

COURSE CONTENT:

1. Diagnostic tests of reading and study skills
2. Evaluation of testing results
3. Vocabulary drills and exercises
4. Exercises in comprehension
5. Word recognition exercises
6. Study skill activities
7. Timed reading exercises
8. Study of affixes
9. Sustained silent reading

COURSE REQUIREMENTS:

1. Laboratory and clinical participation and experiences
2. Completion of individual assignments and contracts
3. Attendance and involvement in class activities

TERMINAL PERFORMANCE:

The student will:

1. take diagnostic reading tests
2. participate in vocabulary and comprehension exercises
3. engage in word recognition drills
4. master study-skill activities
5. complete timed-reading exercises and participate in sustained silent reading
6. prepare a reading journal logging their outside reading experiences

EVALUATION PROCEDURES:

Student evaluations determined by:

1. scores derived from pre-post tests
2. demonstrated efficiency in completion of assigned tasks
3. evaluations of diagnostic reading and study skill tests
4. degree of involvement in class activities
5. attendance
6. evaluation of reading journal

**ED.EL. 110, DEVELOPMENTAL READING
COURSE REQUIREMENTS**

Texts: Do not buy any book until you are instructed to do so. After your teacher tells you what books you need to purchase, check to make sure you are buying a new book. Paperback books used by students last semester are not reusable.

Student Responsibilities:

Daily:

1. Attend every class period. Fifteen percent of your grade is based on class attendance, and utilization of time. A reasonable number of absences may be made up. (See attached form). Three absences that were not made up will lower your final grade a letter, e.g. a grade of (A) would be lowered to a (B).
2. Bring the book you are reading for S.S.R. and spend the first ten minutes of the period reading it.
3. Pick up folder before class and return it to file drawer at the end of each class.
4. Attend any group session to which you have been assigned.
5. Utilize remainder of period working on individual work.
6. Follow check-out and return procedures for all materials. (See attached form).
7. Turn in completed work to teacher and file all returned work in individual student folders.

Bi-weekly:

1. Complete contingency contract. (See attached form).
2. Schedule a conference with teacher each week to check progress on contract.
3. Complete vocabulary and word parts
4. Turn in vocabulary notebook.

5. Turn in Reading Journal.

Grading System:	Contracts and test scores	70%
	Attendance and Utilization of time	15%
	Reading Journal	15%

ED.EL. 110, DEVELOPMENTAL READING

The Reading Journal: An Out-of-Class Requirement

Since reading, like any other skill, improves only with practice, one aim of this class is to provide you with that "practice". The Reading Journal is the primary avenue for promoting and encouraging the practice of reading in this course.

The idea of the Journal is quite simple. First, you select any book on any subject that you would like to read-sports, comedy, mystery, science fiction, suspense, biography, history, supernatural, romance, religion, etc... The only restriction of the book choice is that it must be new to you and must not be required reading for another class.

After you have chosen your book, you are then asked to read it for a short time (approximately 15 minutes) EVERY DAY! After the short reading, you are then to make a brief entry, as described below, recalling the chapter or section you read. This brief write-up can be an excellent aid in improving your comprehension, that is, in helping you remember what you read.

The whole idea of this requirement is to provide you with an opportunity to get that valuable reading practice while reading something you really choose to read. The requirement will earn you 15% of your semester grade.

Directions for Writing Up Your Reading Journal

(1) When you start a new book, write the author's name and the full title and underline it.

(2) Every time you read, make sure you remember to make a short "recall" entry:

(a) the day, and the date (ex. Monday, April 14, 1991).

(b) a listing of the pages read-beginning page to ending page.

(c) a brief description of the section you read.

(3) Since it is important to keep your work neat, skip a line after each entry and keep a sizable margin.

DEVELOPMENTAL READING ABSENCE MAKEUP FORM

Student's Name _____

It is very important that you be in Developmental Reading Class every time it meets. Much of your work must be done in class using materials that cannot be checked out. All absences must be made up within two weeks of the day you were absent. Absences not made up will lower your grade. Three absences which have not been made up will lower your final evaluation by one letter grade. Makeup time must be spent in the Developmental Reading room and may be made up during the following times:

<u>MWF</u>	<u>TThF</u>
9:10	8:00
10:20	9:10
11:30	10:20
12:40	11:30
1:50	12:40

During the makeup hour you may work on assignments on your contract. At the end of the hour, have the instructor in the room sign the sheet. No credit can be given if this sheet is not signed.

Makeup for absence on _____

Must be made up by _____

Dates made up (1) _____

(2) _____

(1) _____

(2) _____

***Signed by (Instructor in the room during makeup hour)

Please list work done during makeup hour ON BACK.

VITA

Colleta Durham Grindstaff was born in Pittsburgh, Pennsylvania. She attended elementary school at the T.V.A. government school established in Fontana, North Carolina and was graduated from Elizabethton High School in Elizabethton, Tennessee. She attended Baylor University and was graduated from East Tennessee University with a Bachelor of Arts degree in English, Art, Library Science, and Elementary Education. She was employed by the Elizabethton City School System as a elementary teacher and later as a librarian for six years.

She accepted a graduate assistantship at East Tennessee University in 1962 and began working on a Masters of Arts Degree in Reading Education. This degree was granted in 1963. She taught high school reading at James Madison High School in Falls Church, Virginia in 1963-1964 and was the remedial reading coordinator for Dover Township schools in Toms River, New Jersey from 1964-1966.

In 1967 she was employed by Eastern Kentucky University as the Language Arts Coordinator for a Title III program. In 1969, Mrs. Grindstaff accepted the position of Assistant Professor of Reading Education at Morehead State University. In 1983, she was granted a sabbatical leave from MSU and she enrolled at the University of Tennessee, Knoxville to begin her doctorate. At this time, she was awarded a graduate

assistantship in the Department of Curriculum and Instruction to work as a clinician in the Reading Clinic. She received the degree of Doctorate of Education with a major in Reading Education from the University of Tennessee in August of 1991.

Mrs. Grindstaff is a member of the International Reading Association; the Kentucky State Association of the International Reading Association; Phi Kappa Phi; the National Association for the Education of Young Children; the National Association of Developmental Educators; and Delta Kappa Gamma.

Presently, Mrs. Grindstaff is the Director of the Reading Center at Morehead State University and she also teaches graduate and undergraduate classes in reading education.