A COMPARISON OF FORMER DEVELOPMENTAL STUDIES STUDENTS AND NON-DEVELOPMENTAL STUDIES STUDENTS ENROLLED IN COLLEGE LEVEL MATHEMATICS AND ENGLISH COURSES

CYNTHIA WILSON DOUGHERTY

To the Graduate Research Council:

I am submitting herewith a Field Study written by Cynthia Wilson Dougherty entitled "A Comparison of Former Developmental Studies Students and Non-Developmental Studies Students Enrolled in College Level Mathematics and English Courses". I have examined the final copy of this paper for form and content, and I recommend that it be accepted in partial fulfillment of the requirements for the degree of Educational Specialist, with a major in Administration and Supervision.

Dr. Allan S. Williams, *Major Professor*

We have read this Field Study
and recommend its acceptance.

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Field Study

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Graduate Research Council of

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of the Requirements for the Degree of

Education Specialist

Cynthia Wilson Dougherty

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ABSTRACT

This research attempted to analyze students who enrolled in Mathematics 1210, College Algebra and English 1010, English Composition, between Fall 1993 and the Summer 1996, at Austin Peay State University in Clarksville, Tennessee. These students were divided into two groups, one included those students who had taken a developmental mathematics or English course, and those who began their college level mathematics and/or English courses with Mathematics 1210 and/or English 1010. Based on the realization that developmental courses are designed to improve the academic ability and skills of students who did not meet admissions requirements so that they will be academically equivalent to those students who met admissions requirements and were not required to take developmental courses, it was appropriate to study the success rates (grade of 'D' or higher) of these two groups.

It was concluded that developmental studies courses are achieving their intended goals and serving a large student population, who without the opportunity to take developmental courses would not be able to attend the university. The analysis of students enrolled in Mathematics 1210, indicated that students who had taken Mathematics 0830, a developmental mathematics class, succeeded at comparable rates to those students who had not taken a developmental mathematics course. Likewise, students enrolled in English 1010, who had taken English 0820, a developmental English class, succeed at a slightly higher rate than those who had not taken a developmental English course.

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Chapter 1

Introduction

In many states, students who do not meet college entrance requirements are permitted to enter college by taking developmental courses, in an attempt to raise their academic ability to a level equated with college entrance requirements. A number of students who enroll in developmental courses are nontraditional students who have been away from the world of academe for a number of years and need refresher courses to become reacquainted with subjects which were once familiar to them. At the other extreme, there are those students who may never be able to match their academic abilities with college entrance requirements.

In considering all students who participate in developmental studies programs, how many continue to successfully pursue a college education? The answer to this question seems to be of significance in determining the success of developmental studies programs in general, and suggests the relevance and importance of including such programs in two and four year colleges and universities.

Statement of the Problem

The problem to be investigated in this study is the success rate of students, who had previously taken developmental mathematics and English courses, enrolled in college level mathematics and English courses, as compared to those who had not taken developmental courses.

Hypothesis

Null Hypothesis One: The success of former Developmental Studies students in Mathematics 1210 is statistically insignificant as compared to non-developmental studies

students enrolled in Mathematics 1210.

Null Hypothesis Two: The success of former Developmental Studies students in English 1010 is statisitcally insignificant as compared to non-developmental studies students enrolled in English 1010.

Definition of Terms

Developmental Studies Program - A state-mandated program designed to prepare students for college level course work. A detailed description of the Developmental Studies Program is given on pages 44 and 45 of the 1995-1997 version of The University Undergraduate Bulletin.

FOCUS - A computer programming language use to create reports containing information stored in the university's Student Information System.

Student Information System - A computerized data management system utilized by institutions of higher education in the Tennessee Board of Regents system.

Success - Achievement of a passing grade (D or higher) in college level academics.

Importance of the Study

Developmental studies programs are intended to prepare students who are initially academically inferior to succeed in the world of academe, and subsequently in the work place. Although developmental studies programs are widespread throughout the United States, they are not always welcomed with open arms. In part, this is due to the lack of understanding by college and university faculty and administration as to the benefit and purpose of

developmental studies programs. This study is intended to show that the Developmental Studies Program at Austin Peay State University plays a highly significant role in the composition of the student body. Without the ability to offer developmental courses, the enrollment at Austin Peay State University would decline and thus the number of faculty needed to teach freshman level core courses would probably also decrease.

Limitations of the Study

Information regarding success rates will be primarily limited to students enrolled at Austin Peay State University, from Fall 1993 to present. The literature review will be limited to the holdings and electronic data bases available in the Austin Peay State University Woodward Library.

Chapter 2

Review of Literature

The Division of Developmental Studies at The University of Georgia

Various types of developmental studies programs have been in existence for at least 20 years in this country. In 1976, The University of Georgia began a developmental studies program which consisted of five graduate assistants and 50 students. Their program, entitled The Division of Developmental Studies, grew to 454 students, 17 full-time faculty, 29 part-time faculty and 5 support staff by the Fall of 1990. The Division of Developmental Studies provided a means by which students, who according to admissions requirements would have been unable to attend the University, an opportunity to acquire the skills necessary to succeed in college-level classes. In an attempt to promote interaction between faculty members and students and to encourage student participation in class, class sizes did not exceed 20 students (Higbee, 1991).

The English Program within The Division of Developmental Studies attempts to teach students to write fluently, correctly and effectively. Their English courses include peer review, word processing instruction and practice, and instruction in all aspects of the composing process. The Mathematics Program focuses on three main objectives which include the following: (1) improve students' mathematics' skills to where they can be successful in college-level mathematics courses; (2) strengthen the analytical processes; and (3) to develop and strengthen the mathematical work and study habits of students. Students exit the Division of Developmental Studies when they successfully complete the exit

requirements of each course. A student must successfully complete the exit requirements within four atttempts or they are dismissed from the university. Dismissal occurs in less than one percent of the students due to failure to complete requirements within four attempts. If a student is dismissed they are encouraged to meet with a counselor to develop alternative educational or occupational plans (Higbee, 1991).

Students who enroll in courses provided by the Division of Developmental Studies have a lower mean high school grade point average. Although there appears to be no significant difference in success between non-developmental students and developmental students in college-level English or mathematics courses. Of the students who successfully complete the program, about 46% graduated from the University of Georgia whereas about 60% of all freshman enrolled graduated.

A common misconception about the purpose of developmental studies programs is the expectation that students who take developmental studies will have a higher success rate than those who begin in college-level courses. Developmental studies programs have been designed to help students who are underprepared for college-level courses to reach a level of academic ability equivalent to those who are considered prepared to begin college work.. Ideally, the time spent in developmental and remedial classes will allow students to succeed and progress at the same rates as those students who did not take developmental or remedial courses, without delaying the educational process to an extent that discourages the student and leads to students dropping out. According to Umoh (1994) only 40 percent of students who enroll in colleges and universities graduate. There are a number of factors that influence a student to drop out, one of these being the campus environment. The campus environment

affects all students, but it sometimes affects developmental education students more acutely. Studies indicate that developmental education students who withdraw from college often attribute this decision to the presence of a hostile racial climate. (Umoh, 1994). Observers report that faculties, particularly those at research institutions, often have negative attitudes toward remedial students and tend to be poorly trained to teach them. If developmental studies programs are inadequately funded, superficial, lack permanence or institutional backing, and are viewed as outside the institution's central purpose, some writers have predicted that work with low-income or minority students may suffer.

Jersey City State College's undergraduate population is comprised of many adult, minority, financially and educationally disadvantaged students whose employment and college attendance patterns reflect the life situations of adults who live in urban areas (Lyons, 1994). The State of New Jersey mandates require initial placement in basic skills courses for all freshmen who demonstrate a need for remediation. This need is determined by a student's performance on the state-mandated New Jersey College Basic Skills Placement Test. Greater than four-fifths of the full-time freshmen passed their initial courses in mathematics and reading and more than three-fifths in their first English course. Passing rates in their freshman-level writing course were eighty-seven percent for students who initially enrolled in developmental courses as compared to sixty-nine percent for those students who did not need remediation in writing (Lyons, 1994).

In 1995, a study was conducted at Laramie County Community College in Wyoming, to assess the effectiveness of their developmental studies program. The criteria used to determine success included a grade of 'C' or better in developmental courses and subsequent,

related courses. They found that the completing rate of students who enrolled in developmental classes was comparable to their non-developmental peers. Academically, developmental students perform comparably with non-developmental students. Their study began in Fall 1993 and continued through Spring 1995, during which time it appeared that developmental studies students persisted at a much higher rate than do non-developmental students. At the end of this four semesters span, forty-two percent of the developmental students were still enrolled as compared to twenty-three percent of their non-developmental peers. As part of the conclusion to this study, they found that very few developmental students enroll in advanced courses of a related subject area, but the majority of those who did were successful.

Chapter 3

Methodology

The core of this study is based on data collected from Fall 1993 to Summer 1996 for students attending Austin Peay State University (APSU) and who enrolled in Mathematics 1210, College Algebra or English 1010, English Composition. This cohort includes 5,295 students of which 3,056 enrolled in English 1010 and 2,239 in Mathematics 1210. Information was obtained through the use of programs written in FOCUS Report Writing language (see appendixes A-D) to access student records stored on Austin Peay State University's VAX system. Between Fall 1993 and Summer 1996, there were nineteen terms including eleven at Austin Peay State University's Fort Campbell Campus and eight at the main campus. Although developmental programs are widespread throughout this country, they are not always accepted with open arms. However, without developmental programs it seems that enrollment at institutions of higher education would greatly suffer because these colleges and universities would be unable to serve a growing population of students who are entering college underprepared. The enrollment in English 1010, which is the freshman level English Composition course at APSU, totalled 3,056 which included 739 students who had previously taken a developmental level English course (Figure 2). This indicates that approximately 24% of those enrolled in English 1010 would not have been allowed to enroll if the developmental studies program was nonexistent. Of the 2,239 students enrolled in Math 1210, 975 had previously taken Intermediate Algebra (Figure 6), a developmental level math course designed to prepare students who are underprepared in the area of mathematics to enter college level math. Without the developmental studies program, the enrollment in

Math 1210 would have decreased by 44%. Obviously, developmental studies programs constitute a significant part of colleges and universities, but are students who complete developmental courses academically prepared to enter college level courses in mathematics and English?

Chapter 4

Results

Austin Peay State University is a member of the State University and Community College System of Tennessee which consists of fourteen two-year institutions and 6 universities (Hector, 1992). Austin Peay State University began as Austin Peay Normal School in 1927 then gained university status in 1967. Until 1972, the University was governed by the State Board of Education which abdicated its governance of higher education institutions to the Tennessee State Board of Regents (TBR) (Austin Peay State University Bulletin, 1995).

The TBR developmental studies program was formed following the adoption of the Tennessee Comprehensive Educational Reform Act of 1984. This act denoted the basic academic skills, as specified in Project Equality, a report by The College Board, to be included in state high schools' curricula. For example, in mathematics, the level of high school Algebra II was designated as a prerequisite for students taking college level mathematics. In the Fall of 1985, the Tennessee Board of Regents authorized the Academic Assessment and Placement Program (AAPP) for implementation in all of its universities and two-year institutions. The system-wide tests assess students in the areas of writing, reading, and mathematics and based on their tests results, students are mandatorily placed in appropriate developmental or college courses. In addition to the formation of the developmental studies program, there were simultaneous changes made in the university's admissions policies. These changes required students graduating in 1989, to complete 13 high school units in order to enroll in state universities. These 13 units include: Algebra I, Algebra

II, Geometry or advanced math, two units of science (including one with a lab), social studies, U.S. history, two units of foreign language and four units of English .

In regard to the 1986 cohort of entering freshmen in the TBR system, 54.9% of the them required remediation in one or more subjects (Hector, 1992). From 1985 to 1989, the ACT was used to determine who should take the placement tests in mathematics and writing and then in 1990, the ACT-E was adopted. Students under 21 years of age, who are applying for regular admission as first-time freshmen, must submit ACT or SAT scores to the institution where they are applying. If a student under 21 years of age, has an ACT composite score of 18 or lower, they must complete the AAPP Reading Comprehension test; an ACT Mathematics sub-score of 18 or lower, they must take the appropriate AAPP Mathematics tests; or an ACT English sub-score of 18 or below, they must complete the AAPP Writing Sample. Students, who are 21 years of age or older, are not required to submit ACT scores, but may do so if the scores are no more than 3 years old as of the first day of the first term of enrollment. If a student who is 21 years of age or older elects to submit ACT scores, then they are subject to the screening process of students under 21 years of age, otherwise they are required to take the complete AAPP battery. Another large group of students who are subject to taking the AAPP tests are transfer students who have completed less than 60 hours or have not earned credit for college-level mathematics or English.

According to TBR guidelines (1995), developmental studies programs should provide counseling services, tutorial instruction, peer tutoring, testing services and academic advisement for their students. Once a student enters the developmental studies program, they must complete the exit criteria for each developmental course within two attempts or be

suspended for one term (excluding summer). At Austin Peay State University, after a student's second unsuccessful attempt in a developmental course, they are given the opportunity to appeal their suspension. According to TBR (1995), each institution should have in place intervention procedures for students who are not successfully completing developmental courses. A student may be allowed to register for their third attempt in a course, based on conditions specified by the Director of Developmental Studies, without suspension. After a student unsuccessfully attempts a developmental course for the third time, they are suspended from the university for one year. Again, the student has the right to appeal their suspension in most cases. In developmental courses, students may be assigned a grade of A, B, C, F, in progress, incomplete, or withdrawal. A grade of A, B, or C indicates successful completion, but the assigning of any grade constitutes an attempt.

In addition to monitoring students' grades, developmental studies programs must enforce the mandatory attendance policy as prescribed by TBR (1995). Tracking students' attendance should be a continual process and appropriate intervention should be in place for those failing to meet attendance requirements. Ideally, students should be counseled about attendance problems when they first occur or at the earliest possible time. This will allow for the interjection of constructive recommendations to help the student overcome any difficulties or obstacles that may be hampering them from attending class on a regular basis.

Students may be concurrently enrolled in developmental and college level courses. As mandated by the Tennessee Board of Regents (1995), any student taking a developmental course must be under the supervision of the Director of Developmental Studies, and advised by a trained advisor as to which courses are appropriate at a given time. For many college

level courses, the prerequisites include completion of related developmental courses. In other cases, the advisor needs to be aware of the student's current abilities and limitations, and advise them to take classes for which they are prepared. For example, a student who is enrolling in a developmental reading class probably is not ready to take a college history course.

In the Developmental Studies Program at Austin Peay State University, there are eight, three credit hour courses offered to students including courses in reading, writing, mathematics and study skills. Within the Developmental Studies Program there are two basic categories of classes, one category includes remedial classes and the other developmental classes. There are three remedial level courses and five developmental courses offered at the university. These courses count toward hours required for financial aid and full time status, but not graduation requirements.

Chapter 5

Summary, Conclusions and Recommendations

There have been numerous articles written about developmental studies programs across the United States, but very few seem to directly address the success of students who have taken a developmental course and then advanced to its sequential core course. An example would be the transition from Intermediate Algebra to College Algebra. How do students who have taken developmental courses compare academically to students who have never taken a developmental course in courses immediately sequential to developmental courses? For instance, how do students who have taken a developmental English course compare academically in a freshman English Composition class with students who have never taken a developmental English course? It should be noted, developmental courses and programs have been designed to provide an opportunity for academically inferior students to obtain the skills and knowledge necessary to become academically equivalent to students who meet basic college entrance requirements and are not required to take developmental courses. This is not to imply that students who complete developmental courses will be better prepared or academically superior to those students beginning their college careers in core level courses.

In examining the grades of students enrolled in English 1010, English Composition, it can be determined that of the 739 students who had previously taken English 0820, a developmental level English course, approximately 85% passed the course with a grade of D or higher. Compared with a passing rate of approximately 84% for the 2,317 students enrolled in English 1010 who had not taken a developmental English course (Figure 1).

Although previous developmental studies students are passing at a slightly higher rate than students who began their college career in core level courses, you can conclude that students who entered Austin Peay State University with less than adequate subscores on their entrance exams have reached an academic level equivalent of those students who entered college with acceptable English scores.

A similar comparison can be made when considering the grades of students enrolled in Mathematics 1210, College Algebra. Of the 975 students enrolled in Mathematics 1210, who had previously taken Mathematics 0830, a developmental level mathematics course, approximately 65% passed with a grade of D or higher. While approximately 67%, of the 1,264 students enrolled who had not taken a developmental course, passed with a grade of D or higher (Figure 5). The passing rates of students enrolled in Mathematics 1210 differ from the students enrolled in English 1010, because the students who had previously taken a developmental level mathematics course passed at a slightly lower rate than of those students who had not take a developmental level mathematics course. However, the difference in passing rates is very small, thus indicating that the two groups of students being compared are basically academically equivalent.

Further analysis of the grade distribution for previous developmental studies students and for those who have never taken developmental studies courses who enrolled in Math 1210, College Algebra indicates that the two groups are academically equivalent. For example, in both groups greater than 25 percent of the students earned a grade of A or B. Similarly, the percentage of students earning a grade of F are within 3 percentage points. A similar comparison can be made when analyzing the grade distribution for English 1010,

English Composition. In English 1010, greater than 50 percent of both groups being compared earned a grade of A or B. Also, students in English 1010, who had previously taken English 0820, had a slightly lower failure rate than those students who had not taken a developmental English.

In summary, without the benefit of offering developmental courses, the enrollment of colleges and univesities would suffer, some more significantly than others. With the ever increasing population of nontraditional students (over 21 years of age), there will continue to be a need to provide services to improve their academic capabilites in order for them to compete in today's world of academe, as well as in the work place. As shown in this study, developmental studies programs are succeeding in preparing students who are initially academically inferior to succeed in the world of academe, and subsequently in the work place. As mentioned earlier, although developmental studies programs are widespread throughout the United States, they are not always welcomed with open arms. In part, this is due to the lack of understanding by some college and university faculty and administration as to the benefit and purpose of developmental studies programs. This study shows that the Developmental Studies Program at Austin Peay State University plays a highly significant role in the composition of the study body. Without the ability to offer developmental courses, the enrollment at Austin Peay State University would decline and thus the number of faculty needed to teach freshman level core courses would also decrease.

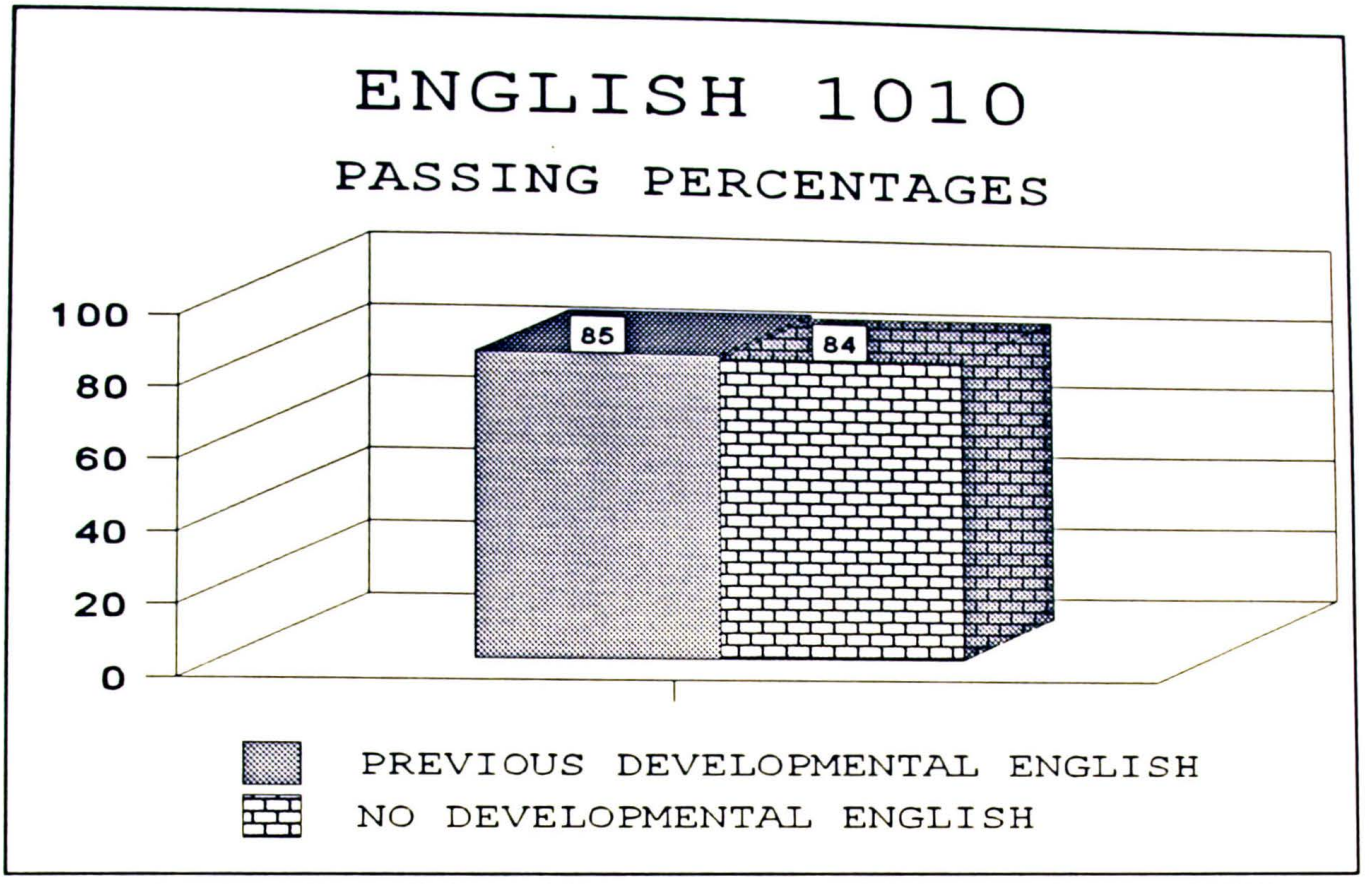


Figure 1: Based on data collected for Fall 1993 to Summer 1996.

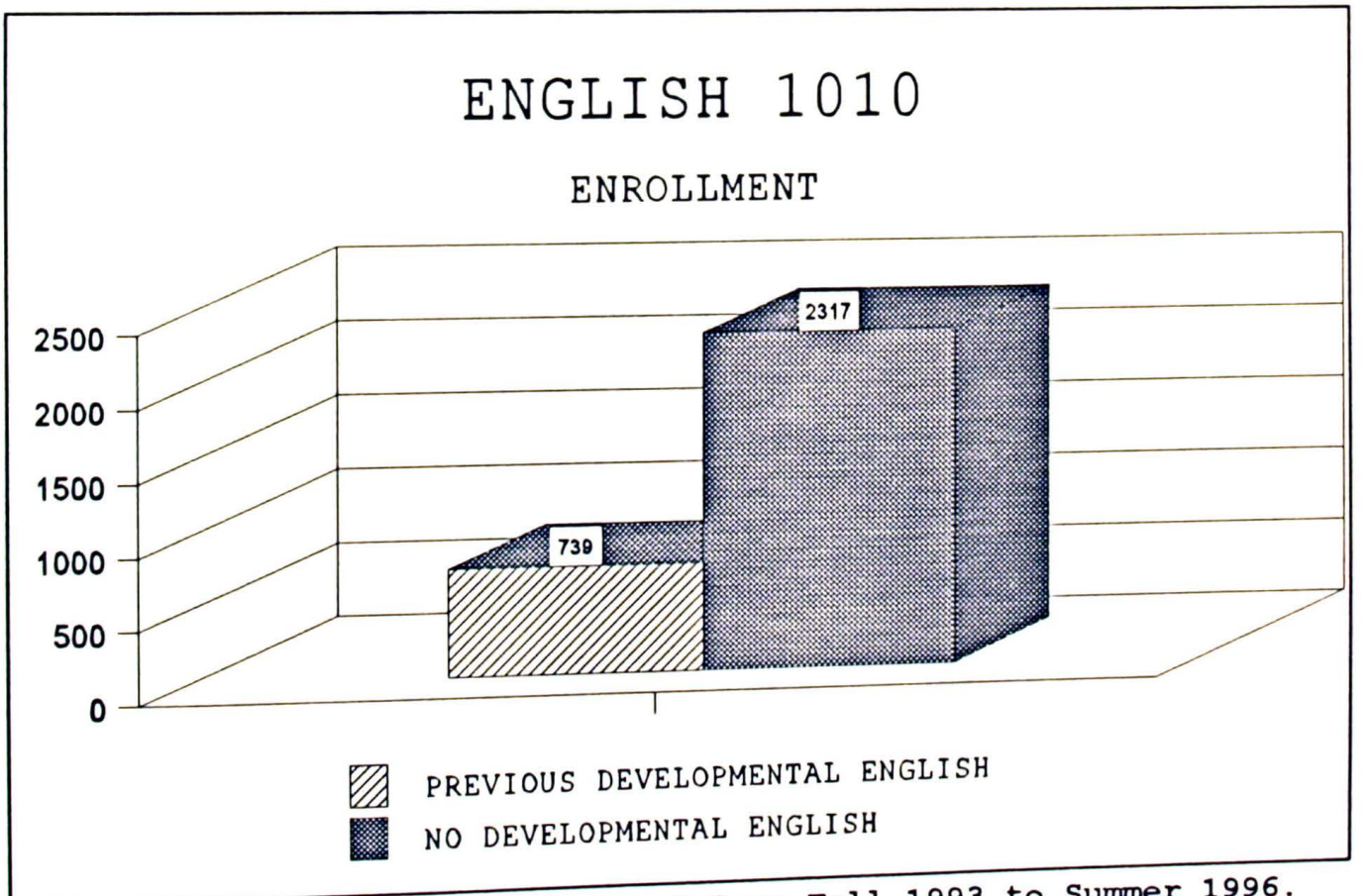


Figure 2: Based on data collected from Fall 1993 to Summer 1996.

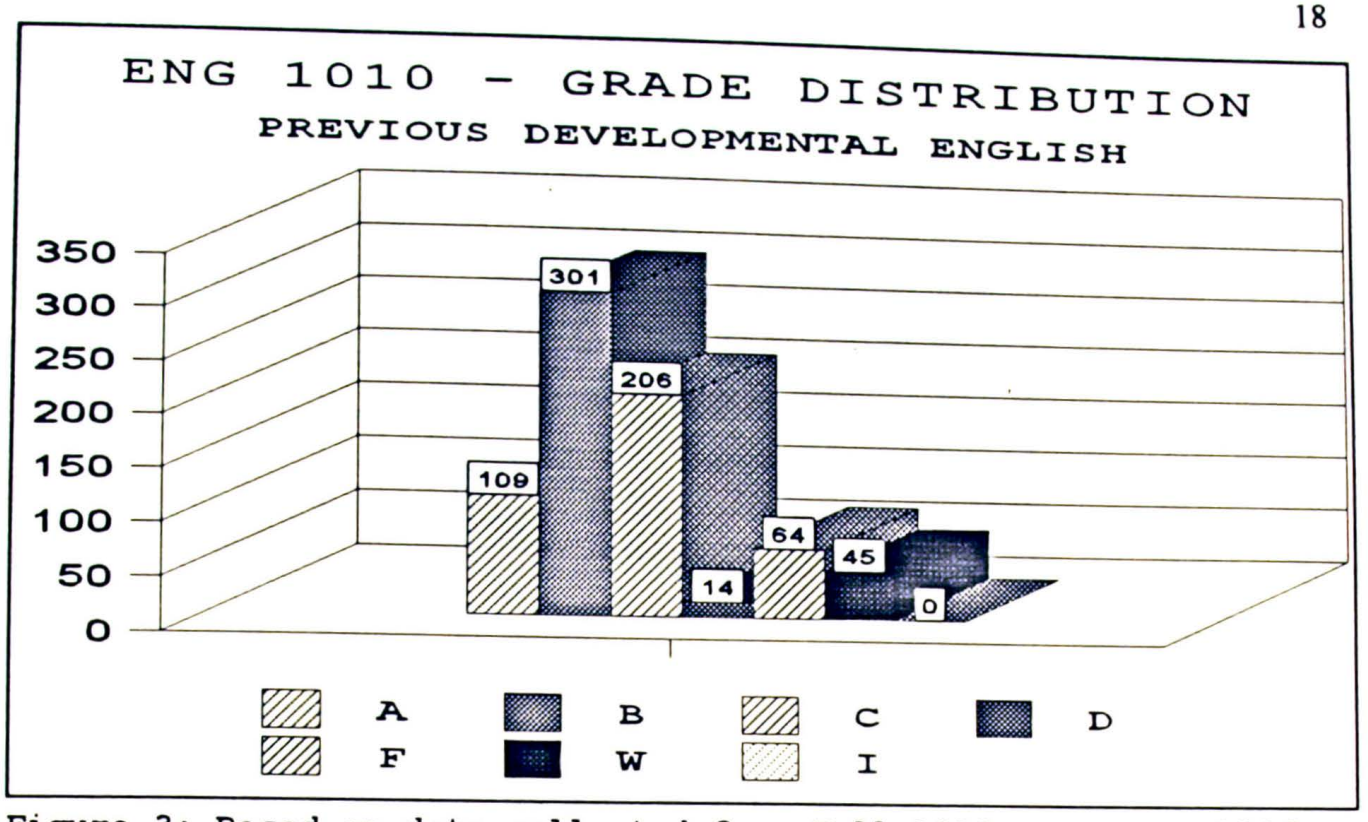
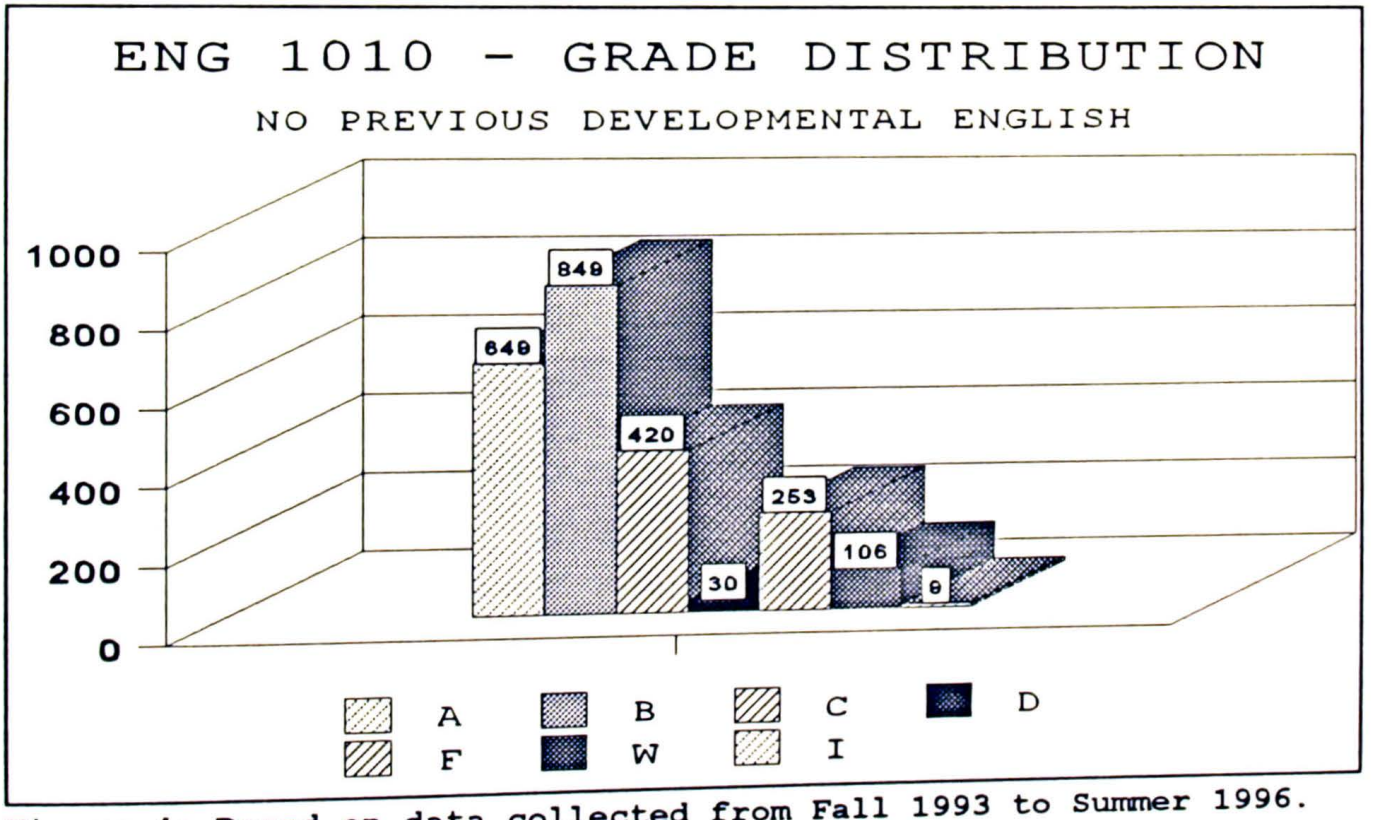


Figure 3: Based on data collected from Fall 1996 to Summer 1996.



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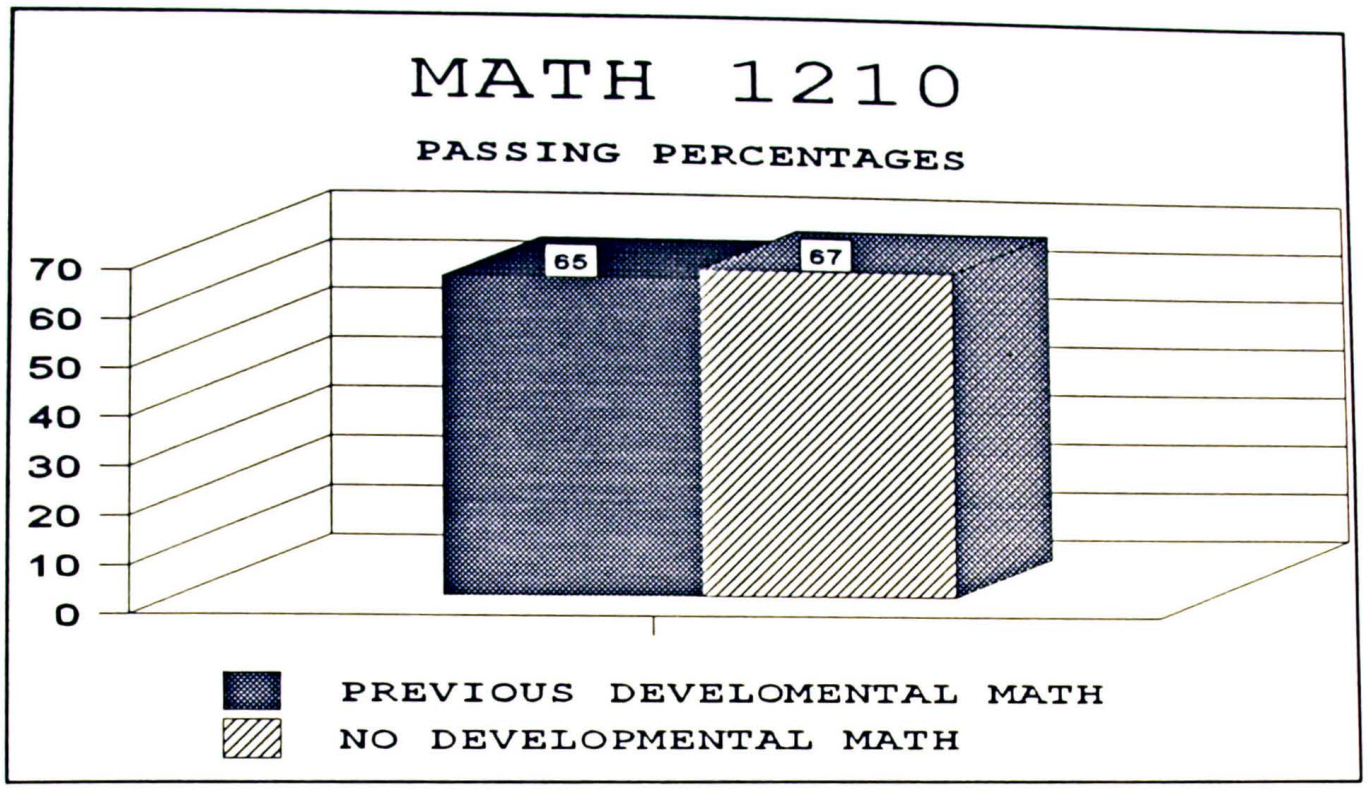
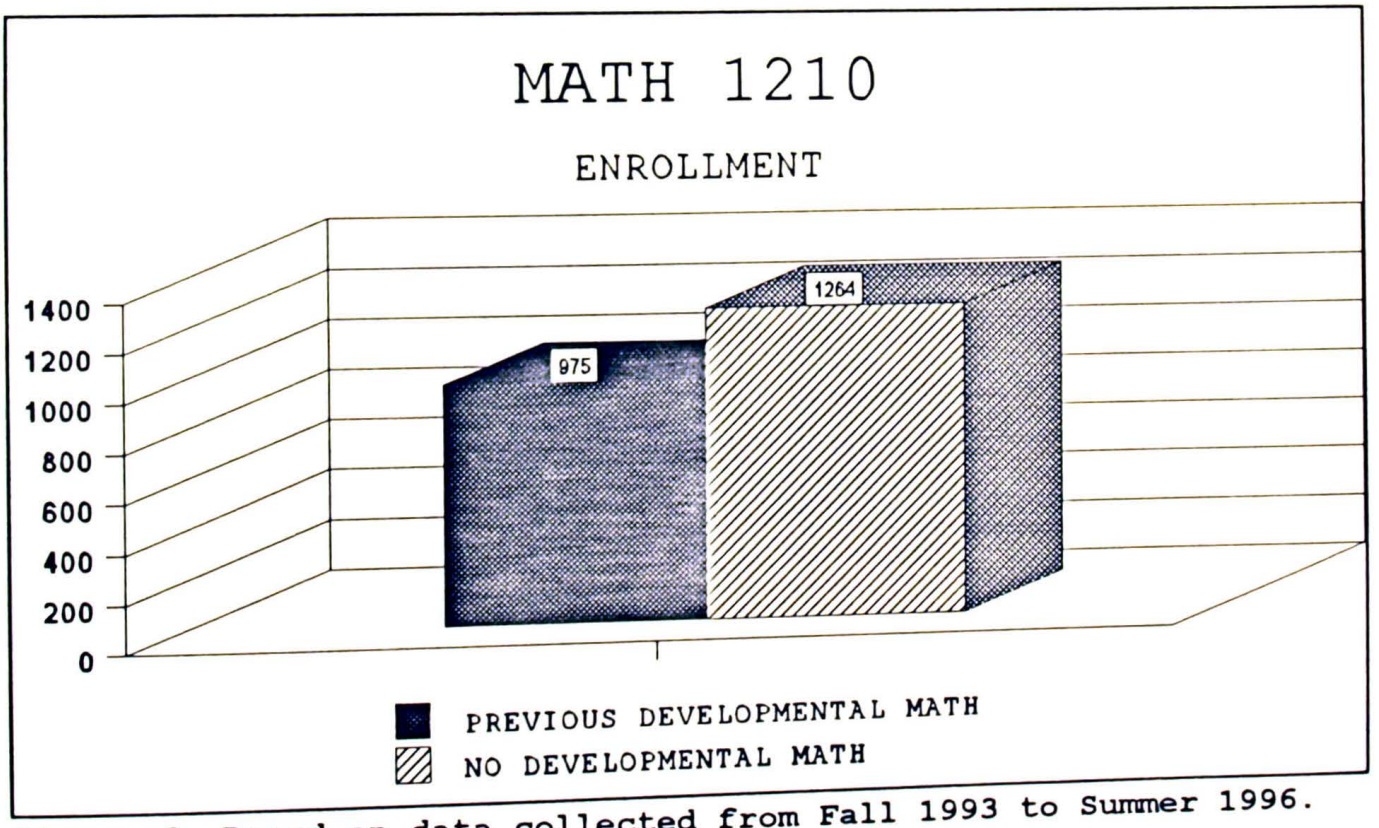


Figure 5: Based on data collected from Fall 1993 to Summer 1996.



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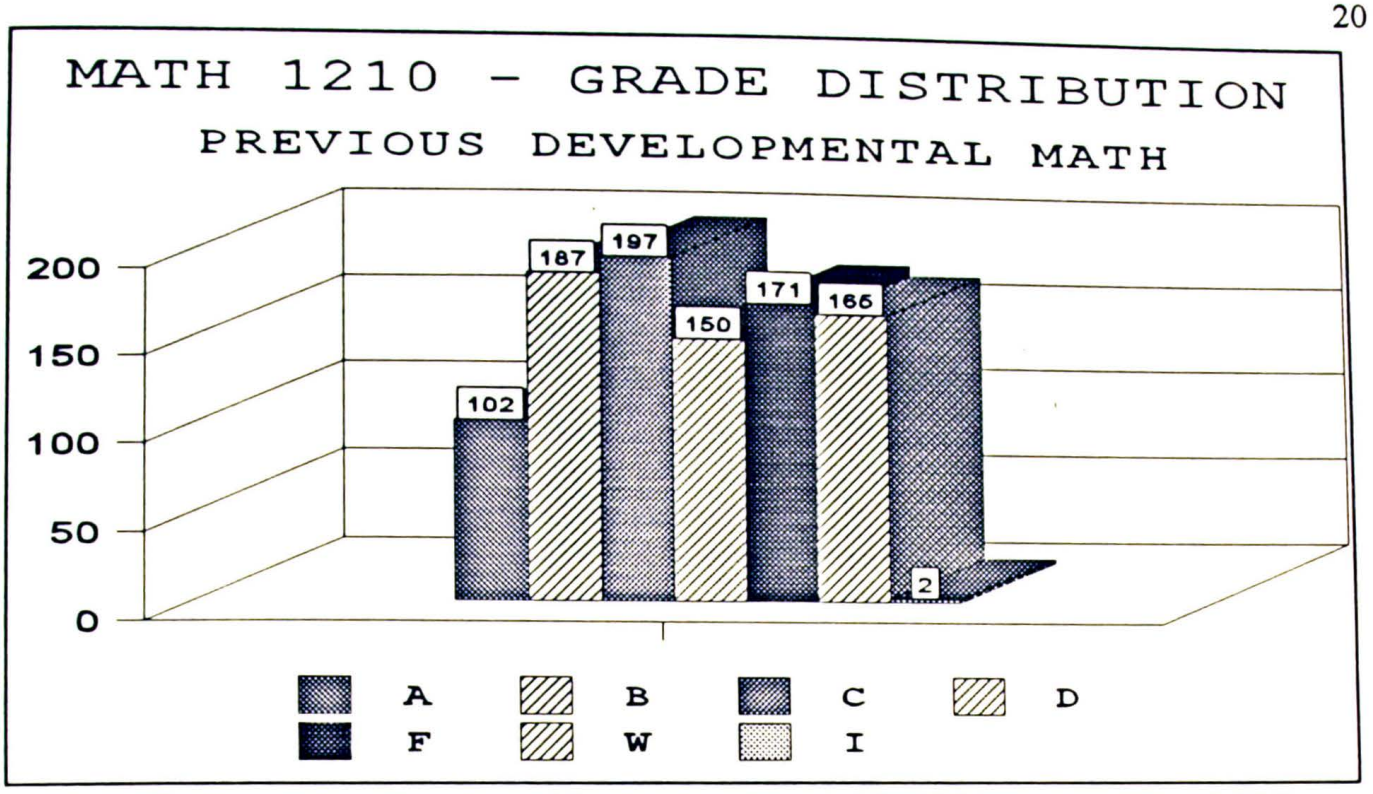

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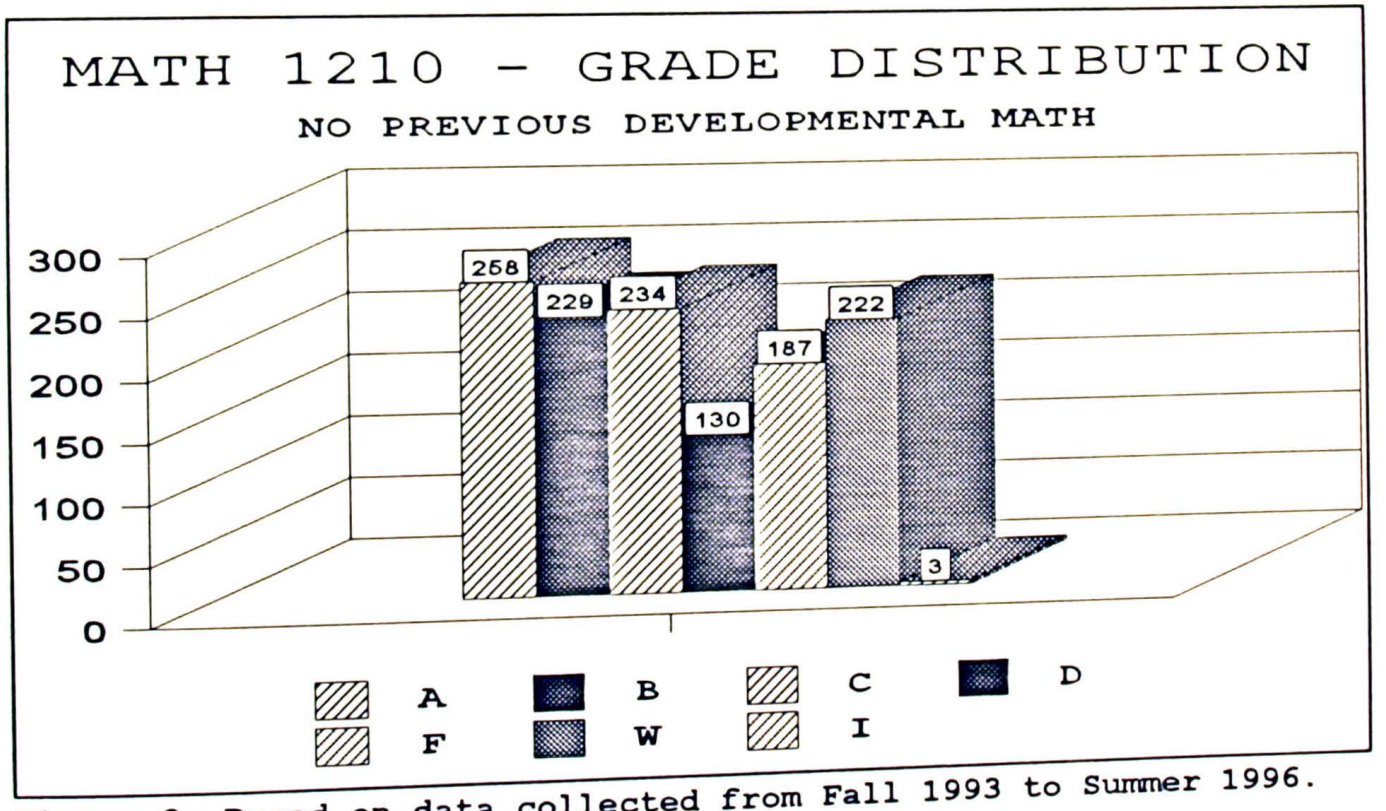

Figure 8: Based on data collected from Fall 1993 to Summer 1996.

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APPENDIXES

Appendix A

APPENDIX A

Focus Program: MATH_SUCCESS

```
-* Program Name: MATH_SUCCESS
-* Authors: Cindy Dougherty and Loretta Griffy
-* Written: Spring 1996/Summer 1996
-*
-* THIS PROGRAM DOESN'T PRODUCE ANY PRINTED REPORTS, BUT
-* CREATES HOLDING FILES WHICH ARE USED IN THE PROGRAM,
-*  MATH1210_GRADES.
-*

DEFINE FILE RTFILE
CLASS_COURSE/A08 = EDIT (SECTION_ID, '99999999$$$');
MATH_COURSE/A08 = IF CLASS_COURSE EQ 'MATH1210' THEN
          CLASS_COURSE ELSE ' ';
MATH_TERM/A03 = IF CLASS_COURSE EQ 'MATH1210' THEN TERM ELSE ' ';
MATH_GRADE/A03 = IF CLASS_COURSE EQ 'MATH1210' THEN
          OFFICIAL_GRADE ELSE ' ';
END

TABLE FILE RTFILE
PRINT  CLASS_COURSE
       TERM
       OFFICIAL_GRADE
       MATH_COURSE
       MATH_TERM
       MATH_GRADE
BY STU_ID
IF TERM GE '943'
IF OFFICIAL_GRADE NE ' '
IF CLASS_COURSE EQ 'MATH1210'
ON TABLE HOLD AS RTHOLD1
END

DEFINE FILE RTHOLD1
STUDENT_ID/I06 = IF STU_ID NE LAST STU_ID THEN 1 ELSE 0;
END

TABLE FILE RTHOLD1
```

```
 PRINT  CLASS_COURSE
        TERM
        OFFICIAL_GRADE
        MATH_COURSE
        MATH_TERM
        MATH_GRADE
BY STU_ID
IF STUDENT_ID EQ 1
ON TABLE HOLD AS RTHOLD
END

TABLE FILE R7FILE
PRINT  RD_CRS_ID
       RD_PROG_AREA
       RD_PROG_LVL
       RD_CRS_STAT
       RD_PROG_CTR
       R7030_ORDER
       MA_AREA_LVL
BY R7_STU_ID
IF RD_CRS_ID EQ 'MATH0830'
ON TABLE HOLD AS R7HOLD1
END

DEFINE FILE R7HOLD1
STUDENT_ID/I06 = IF R7_STU_ID NE LAST R7_STU_ID THEN 1 ELSE 0;
END

TABLE FILE R7HOLD1
PRINT  RD_CRS_ID
       RD_PROG_AREA
       RD_PROG_LVL
       RD_CRS_STAT
       RD_PROG_CTR
       R7030_ORDER
       MA_AREA_LVL
BY R7_STU_ID
IF STUDENT_ID EQ 1
ON TABLE HOLD AS R7HOLD
END
```

Appendix B

APPENDIX B

Focus Program: MATH1210_GRADES

```
-*Program Name: MATH1210_GRADES
-* Authors: Cindy Dougherty and Loretta Griffy
-* Written: Spring 1996/Summer 1996
-*
-* THIS PROGRAM RUNS FROM TWO HOLDING FILES NAMED RTHOLD AND
-* R7HOLD WHICH ARE CREATED IN THE PROGRAM MATH_SUCCESS
-*

FILEDEF RTHOLD DISK USER 12:[FOC_TEMP.DOUGHERTYC]RTHOLD.FTM
FILEDEF R7HOLD DISK USER 12:[FOC_TEMP.DOUGEHRTYC]R7HOLD.FTM

JOIN STU_ID IN RTHOLD TO R7_STU_ID IN R7HOLD AS J1

DEFINE FILE RTHOLD
TOTAL_ENROLLED/I06 = IF (MATH_COURSE EQ 'MATH1210') THEN 1 ELSE 0;
DSP_MATH/A01 = IF (RD_PROG_AREA EQ 4) AND (RD_PROG_LVL EQ 3) AND
                    (RD_CRS_STAT EQ 'C') THEN 'Y' ELSE 'N';
PREV_DSP_MATH/I06 = IF (MATH_COURSE EQ 'MATH1210') AND (DSP_MATH
                    EQ 'Y') THEN 1 ELSE 0;
NO_DSP_MATH/I06 = IF (MATH_COURSE EQ 'MATH1210') AND (DSP_MATH
                    EQ 'N') THEN 1 ELSE 0;
DSP_PASS/I06 = IF (MATH_GRADE EQ 'A' OR 'B' OR 'C' OR 'D') AND
          (DSP_MATH EQ 'Y') THEN 1 ELSE 0;
NONDSP_PASS/I06 = IF (MATH_GRADE EQ 'A' OR 'B' OR 'C' OR 'C') AND
                    (PREV_DSP_MATH EQ 0) THEN 1 ELSE 0;
DSP_A/I06 = IF (MATH_GRADE EQ 'A') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
                    0;
DSP_B/I06 = IF (MATH_GRADE EQ 'B') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
                    0;
DSP_C/I06 = IF (MATH_GRADE EQ 'C') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
                    0;
DSP_D/I06 = IF (MATH_GRADE EQ 'D') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
                    0;
DSP_F/I06 = IF (MATH_GRADE EQ 'F') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
                    0;
DSP_W/I06 = IF (MATH_GRADE EQ 'W') AND (DSP_MATH EQ 'Y') THEN 1
            ELSE 0;
DSP_I/I06 = IF (MATH_GRADE EQ 'I') AND (DSP_MATH EQ 'Y') THEN 1 ELSE
```

```
                    0;
NONDSP_A/I06 = IF (MATH_GRADE EQ 'A') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_B/I06 = IF (MATH_GRADE EQ 'B') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_C/I06 = IF (MATH_GRADE EQ 'C') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_D/I06 = IF (MATH_GRADE EQ 'D') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_F/I06 = IF (MATH_GRADE EQ 'F') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_W/I06 = IF (MATH_GRADE EQ 'W') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
NONDSP_I/I06 = IF (MATH_GRADE EQ 'I') AND (PREV_DSP_MATH EQ 0)
                    THEN 1 ELSE 0;
END

SET NODATA = 0
TABLE FILE RTHOLD
SUM     TOTAL_ENROLLED NOPRINT
        PREV_DSP_MATH NOPRINT
        NO_DSP_MATH NOPRINT
        DSP_PASS NOPRINT
        NONDSP_PASS NOPRINT
        DSP_A NOPRINT
        DSP_B NOPRINT
        DSP_C NOPRINT
        DSP_D NOPRINT
        DSP_F NOPRINT
        DSP_W NOPRINT
        DSP_I NOPRINT
        NONDSP_A NOPRINT
        NONDSP_B NOPRINT
        NONDSP_C NOPRINT
        NONDSP_D NOPRINT
        NONDSP_F NOPRINT
        NONDSP_W NOPRINT
        NONDSP_I NOPRINT

PRINT   STU_ID
        MATH_COURSE
```

```
        MATH_GRADE
        DSP_MATH
        DSP_PASS
        NONDSP_PASS

ON TABLE SUBHEAD
"PROGRAM NAME: MATH1210_GRADES"
"DATE RUN: &DATE"
"DESIGNED TO COMPARE STUDENTS ENROLLED IN MATH 1210, COLLEGE"
"ALGEBRA, WHO HAD PREVIOUSLY TAKEN MATH 0830, INTERMEDIATE"
"ALGEBRA, WITH THOSE WHO BEGAN IN MATH 1210"
" "
"TOTAL NUMBER OF STUDENTS ENROLLED IN MATH 1210:"
"
<TOTAL_ENROLLED"
"NUMBER OF MATH 1210 STUDENTS WHO HAD TAKEN MATH 0830:"
"
<PREV_DSP_MATH"
"NUMBER OF MATH 1210 STUDENTS WHO DID NOT TAKE MATH 0830:"
"                                                    <NO_DSP_MATH"
"TOTAL NUMBER OF PREVIOUS MATH 0830 STUDENTS WHO PASSED "
"MATH 1210: <DSP_PASS"
"TOTAL NUMBER OF NON_DSP STUDENTS WHO PASSED MATH 1210:"
"                                                    <NONDSP_PASS"
" "
"PREVIOUS MATH 0830 STUDENTS WHO EARNED AN A: <DSP_A"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   B: <DSP_B"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   C: <DSP_C"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   D: <DSP_D"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   F: <DSP_F"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   W: <DSP_W"
"PREVIOUS MATH 0830 STUDENTS WHO EARNED A   I: <DSP_I"
" "
"NON_DSP STUDENTS WHO EARNED AN A: <TOT.NONDSP_A"
"NON_DSP STUDENTS WHO EARNED A   B: <TOT.NONDSP_B"
"NON_DSP STUDENTS WHO EARNED A   C: <TOT.NONDSP_C"
"NON_DSP STUDENTS WHO EARNED A   D: <TOT.NONDSP_D"
"NON_DSP STUDENTS WHO EARNED A   F: <TOT.NONDSP_F"
"NON_DSP STUDENTS WHO EARNED A   W: <TOT.NONDSP_W"
"NON_DSP STUDENTS WHO EARNED A   I: <TOT.NONDSP_I"
" "
END
```

Appendix C

APPENDIX C

Focus Program: ENGLISH_SUCCESS

```
-* Program Name: ENGLISH_SUCCESS
-* Authors: Cindy Dougherty and Loretta Griffy
-* Written: Spring 1996/Summer 1996
-*
-* THIS PROGRAM DOESN'T PRODUCE ANY PRINTED REPORTS, BUT
-* CREATES HOLDING FILES WHICH ARE USED IN THE PROGRAM,
-*  ENG1010_GRADES.
-*

DEFINE FILE RTFILE
CLASS_COURSE/A08 = EDIT (SECTION_ID, '99999999$$$');
ENG_COURSE/A08 = IF CLASS_COURSE EQ 'ENG1010' THEN
                              CLASS_COURSE ELSE ' ';
ENG_TERM/A03 = IF CLASS_COURSE EQ 'ENG1010' THEN TERM ELSE ' ';
ENG_GRADE/A03 = IF CLASS_COURSE EQ 'ENG1210' THEN
                             OFFICIAL_GRADE ELSE ' ';
END

TABLE FILE RTFILE
PRINT  CLASS_COURSE
       TERM
       OFFICIAL_GRADE
       ENG_COURSE
       ENG_TERM
       ENG_GRADE
BY STU_ID
IF TERM GE '943'
IF OFFICIAL_GRADE NE ' '
IF CLASS_COURSE EQ 'ENG1010'
ON TABLE HOLD AS RT_ENG1
END

DEFINE FILE RT_ENG1
STUDENT_ID/I06 = IF STU_ID NE LAST STU_ID THEN 1 ELSE 0;
END

TABLE FILE RT_ENG1
```

```
PRINT  CLASS_COURSE
       TERM
       OFFICIAL_GRADE
       ENG_COURSE
       ENG_TERM
       ENG_GRADE
BY STU_ID
IF STUDENT_ID EQ 1
ON TABLE HOLD AS RT_ENG
END

TABLE FILE R7FILE
PRINT  RD_CRS_ID
       RD_PROG_AREA
       RD_PROG_LVL
       RD_CRS_STAT
       RD_PROG_CTR
       R7030_ORDER
BY R7_STU_ID
IF RD_CRS_ID EQ 'ENG 0820'
ON TABLE HOLD AS R7_ENG1
END

DEFINE FILE R7_ENG1
STUDENT_ID/I06 = IF R7_STU_ID NE LAST R7_STU_ID THEN 1 ELSE 0;
END

TABLE FILE R7_ENG1
PRINT  RD_CRS_ID
       RD_PROG_AREA
       RD_PROG_LVL
       RD_CRS_STAT
       RD_PROG_CTR
       R7030_ORDER
BY R7_STU_ID
IF STUDENT_ID EQ 1
ON TABLE HOLD AS R7_ENG
END
```

Appendix D

APPENDIX D

Focus Program: ENG1010_GRADES

```
-*Program Name: ENG1010_GRADES
-* Authors: Cindy Dougherty and Loretta Griffy
-* Written: Spring 1996/Summer 1996
-*
-* THIS PROGRAM RUNS FROM TWO HOLDING FILES NAMED RT_ENG AND
-* R7_ENG WHICH ARE CREATED IN THE PROGRAM ENGLISH_SUCCESS
-*

FILEDEF RT_ENG DISK USER 12:[FOC_TEMP.DOUGHERTYC]RT_ENG.FTM
FILEDEF R7_ENG DISK USER 12:[FOC_TEMP.DOUGEHRTYC]R7_ENG.FTM

JOIN STU_ID IN RT_ENG TO R7_STU_ID IN R7_ENG AS J1

DEFINE FILE RT_ENG
TOTAL_ENROLLED/I06 = IF (ENG_COURSE EQ 'ENG 1010') THEN 1 ELSE 0;
DSP_ENG/A01 = IF (RD_PROG_AREA EQ 1) AND (RD_PROG_LVL EQ 2) AND
                (RD_CRS_STAT EQ 'C') THEN 'Y' ELSE 'N';
PREV_DSP_ENG/I06 = IF (ENG_COURSE EQ 'ENG 1010') AND (DSP_ENG
                        EQ 'Y') THEN 1 ELSE 0;
NO_DSP_ENG/I06 = IF (ENG_COURSE EQ 'ENG 1010') AND (DSP_ENG
                        EQ 'N') THEN 1 ELSE 0;
DSP_PASS/I06 = IF (ENG_GRADE EQ 'A' OR 'B' OR 'C' OR 'D') AND
                (DSP_ENG EQ 'Y') THEN 1 ELSE 0;
NONDSP_PASS/I06 = IF (ENG_GRADE EQ 'A' OR 'B' OR 'C' OR 'C') AND
                        (PREV_DSP_ENG EQ 0) THEN 1 ELSE 0;
DSP_A/I06 = IF (ENG_GRADE EQ 'A') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
            0;
DSP_B/I06 = IF (ENG_GRADE EQ 'B') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
            0;
DSP_C/I06 = IF (ENG_GRADE EQ 'C') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
            0;
DSP_D/I06 = IF (ENG_GRADE EQ 'D') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
            0;
DSP_F/I06 = IF (ENG_GRADE EQ 'F') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
            0;
DSP_W/I06 = IF (ENG_GRADE EQ 'W') AND (DSP_ENG EQ 'Y') THEN 1
        ELSE 0;
DSP_I/I06 = IF (ENG_GRADE EQ 'I') AND (DSP_ENG EQ 'Y') THEN 1 ELSE
```

```
                    0;
NONDSP_A/I06 = IF (ENG_GRADE EQ 'A') AND (PREV_DSP_ENG EQ 0)
                 THEN 1 ELSE 0;
NONDSP_B/I06 = IF (ENG_GRADE EQ 'B') AND (PREV_DSP_ENG EQ 0)
                   THEN 1 ELSE 0;
NONDSP_C/I06 = IF (ENG_GRADE EQ 'C') AND (PREV_DSP_ENG EQ 0)
                   THEN 1 ELSE 0;
NONDSP_D/I06 = IF (ENG_GRADE EQ 'D') AND (PREV_DSP_ENG EQ 0)
                   THEN 1 ELSE 0;
NONDSP_F/I06 = IF (ENG_GRADE EQ 'F') AND (PREV_DSP_ENG EQ 0)
                  THEN 1 ELSE 0;
NONDSP_W/I06 = IF (ENG_GRADE EQ 'W') AND (PREV_DSP_ENG EQ 0)
                   THEN 1 ELSE 0;
NONDSP_I/I06 = IF (ENG_GRADE EQ 'I') AND (PREV_DSP_ENG EQ 0)
                     THEN 1 ELSE 0;
END


SET NODATA = 0
TABLE FILE RT_ENG
SUM     TOTAL_ENROLLED NOPRINT
        PREV_DSP_ENG NOPRINT
        NO_DSP_ENG NOPRINT
        DSP_PASS NOPRINT
        NONDSP_PASS NOPRINT
        DSP_A NOPRINT
        DSP_B NOPRINT
        DSP_C NOPRINT
        DSP_D NOPRINT
        DSP_F NOPRINT
        DSP_W NOPRINT
        DSP_I NOPRINT
        NONDSP_A NOPRINT
        NONDSP_B NOPRINT
        NONDSP_C NOPRINT
        NONDSP_D NOPRINT
        NONDSP_F NOPRINT
        NONDSP_W NOPRINT
        NONDSP_I NOPRINT

PRINT   STU_ID
        ENG_COURSE
```

```
        ENG_GRADE
        DSP_ENG
        DSP_PASS
        NONDSP_PASS

ON TABLE SUBHEAD
"PROGRAM NAME: ENG1010_GRADES"
"DATE RUN: &DATE"
"DESIGNED TO COMPARE STUDENTS ENROLLED IN ENGLISH 1010, "
"FRESHMAN ENGLISH, WHO HAD PREVIOUSLY TAKEN ENGLISH 0820,"
"DEVELOPMENTAL ENGLISH, WITH THOSE WHO BEGAN IN ENGLISH 1010"
" "
" "
"TOTAL NUMBER OF STUDENTS ENROLLED IN ENGLISH 1010:"
"
<TOTAL_ENROLLED"
"NUMBER OF ENGLISH 1010 STUDENTS WHO HAD TAKEN ENGLISH 0820:"
"
                                                    <PREV_DSP_ENG"
"NUMBER OF ENGLISH 1010 STUDENTS WHO DID NOT TAKE ENGLISH 0820:"
"
                                                    <NO_DSP_ENG"
" "
"TOTAL NUMBER OF PREVIOUS ENGLISH 0820 STUDENTS WHO PASSED "
"ENGLISH 1010: <DSP_PASS"
"TOTAL NUMBER OF NON_DSP STUDENTS WHO PASSED ENGLISH 1010:"
"
                                                    <NONDSP_PASS"
" "
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED AN A: <DSP_A"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   B: <DSP_B"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   C: <DSP_C"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   D: <DSP_D"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   F: <DSP_F"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   W: <DSP_W"
"PREVIOUS ENGLISH 0820 STUDENTS WHO EARNED A   I: <DSP_I"
" "
"NON_DSP STUDENTS WHO EARNED AN A: <TOT.NONDSP_A"
"NON_DSP STUDENTS WHO EARNED A   B: <TOT.NONDSP_B"
"NON_DSP STUDENTS WHO EARNED A   C: <TOT.NONDSP_C"
"NON_DSP STUDENTS WHO EARNED A   D: <TOT.NONDSP_D"
"NON_DSP STUDENTS WHO EARNED A   F: <TOT.NONDSP_F"
"NON_DSP STUDENTS WHO EARNED A   W: <TOT.NONDSP_W"
"NON_DSP STUDENTS WHO EARNED A   I: <TOT.NONDSP_I"
END
```

Appendix E

APPENDIX E

Description of Remedial and Developmental Courses

AUSTIN PEAY STATE UNIVERSITY

REMEDIAL AND DEVELOPMENTAL STUDIES COURSE DESCRIPTIONS

NOTE: Students are required to take the state-mandated assessment test before registering for Developmental Studies coures.

EDUC 0710 **BASIC READING**
Intended to eliminate deficiencies in basic reading skills. Focuses on vocabulary, dictionary use, and literal and inferential reading skills.

EDUC 0820 **COLLEGE READING SKILLS**
Uses text selections and other readings to develop skills in literal, inferential, critical and study reading as well as to introduce the use of reference materials.

ENG 0710 **BASIC WRITING**
Intended to eliminate deficiencies in basic writing skills for minimum proficiency. Focuses on spelling, mechanics, grammar and usage in the context of sentences and paragraphs.

ENG 0820 **INTRODUCTION TO EXPOSITORY WRITING**
Acquaints students with the writing process, presents a review of usage and mechanics, and introduces work with primary and secondary source material

AUSTIN PEAY
STATE UNIVERSITY

REMEDIAL AND DEVELOPMENTAL STUDIES COURSE DESCRIPTIONS
(continued)

MATH 0710 BASIC MATHEMATICS: ARITHMETIC
Main topics are whole numbers, fractions, decimals, percents, statistics and graphs; measurements; geometry; temperature; integers, linear equations in one variable; work problems.

MATH 0820 ELEMENTARY ALGEBRA
Provides algebraic skills equivalent to one year high school algebra. Main topics are properties of real numbers; linear equations and inequalities; operations with polynonials; special products and factoring; rational expressions; applications.

MATH 0830 INTERMEDIATE ALGEBRA
Main topics are functions, relations and graphs; systems of linear equations and inequalities, rational and irrational numbers; quadratic equations and inequalities; complex numbers; conic sections.

PSY 0820 DEVELOPMENTAL STUDY SKILLS
Focuses on the improvement of skills and attitudes necessary for college success. Group activities encourage development in problem solving, coping with stress and understanding University policies. Activities also aid in the improvement of self-esteem and in the exploration of career goals.

Appendix F

Austin Peay State University
Student Information System
Approval Request

Cindy Dougherty is granted permission to use her access to Austin Peay State University's Student Information System to compile student records for the purpose of completing her field study, in partial fulfillment for the Ed.S. program. A specific student record will NOT be used, but data will be compiled for use in statistical analysis.

Director of Records and Registration — Date: 10/27/95

Vice President for Student Affairs — Date: 10/27/95

VITA

VITA

Cynthia Wilson Dougherty is an Assistant Professor of Developmental Studies Mathematics at Austin Peay State University in Clarksville, Tennessee. She received her Associate of Science degree from Hopkinsville Community College, Bachelor of Science in Mathematics Education from Austin Peay State University and Master of Science in Mathematics from Western Kentucky University. Cynthia is currently an active member of the Tennessee Association for Developmental Education (TNADE) and the National Association for Developmental Education (NADE).