

ASSESSMENT OF A REMEDIAL ENGLISH
PROGRAM FOR ACADEMICALLY
DISADVANTAGED YOUNG ADULTS
AT WESTERN CHRISTIAN COLLEGE

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This is to certify that the

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ABSTRACT

ASSESSMENT OF A REMEDIAL ENGLISH PROGRAM FOR ACADEMICALLY DISADVANTAGED YOUNG ADULTS AT WESTERN CHRISTIAN COLLEGE

by

Delmar Franklin Lovejoy

This study was designed to learn whether the teaching of Basic Grammar as a remedial device for academically disadvantaged students at Western Christian College has significantly affected the level of achievement in English 1 and their later choices and achievement as students of WCC. It examined the relationship between achievement in English 1, retention in college, choice of major, proportion who graduate, achievement in six frequently taken courses and enrollment in each of two different remedial programs that have been used at the college.

A population of students designated as academically disadvantaged from first-time-in-college freshmen (1961-1971) were placed in three different groups, one each on the basis of two types of remedial treatment and a third

Delmar Franklin Lovejoy

which received no remediation. The groups were: Group I, academically disadvantaged students who took Basic Grammar concurrently with English 1; Group II, academically disadvantaged students who took Basic Grammar prior to enrolling in English 1; and Group III, academically disadvantaged students who enrolled in English 1 without Basic Grammar.

Investigation was made: 1) to ascertain the relationship, if any, between two modes of remedial English taken by academically disadvantaged students and one non-remediated group as indicated by their performance in English 1 and their subsequent performance in selected courses in college from the fall of 1961 to the spring of 1972; 2) to determine if length of enrollment in college varies between Group I, Group II, and Group III of the academically disadvantaged students, and the difference, if any, between the length of enrollment of regular college students and the academically disadvantaged student; 3) to ascertain if students identified as academically disadvantaged students choose particular courses of study in disproportionate numbers and to determine the difference, if any, in the grade point averages of the academically disadvantaged students

who graduated and all college students who graduated in the same fields of study; and 4) to compare the first semester composite grade point averages of academically disadvantaged students with their length of stay at Western Christian College.

The Pearson product-moment correlation was calculated to express the relationship between the scores on placement tests and grades received in English 1. A t-Test was used to test for significance of relationships between modes of remedial English or no-remedial English with English 1 grades and to test for significance of relationships between modes of remedial English or no-remedial English with grades earned in selected subject areas. A t-Test was employed to measure significance of relationships in proportions between treatment groups and regular college students in number of years enrolled and disciplines studied.

The principle conclusions were:

1. Neither of the two patterns of Basic Grammar produces significant improvement in English 1 as measured by grade point average.

2. Neither of the two patterns of Basic Grammar improves the academically disadvantaged students' academic performance in six selected subject areas of later study as measured by grade point averages.
3. Academic disadvantaged students who completed Basic Grammar prior to entering English 1 continued in college for the second year in larger proportions but thereafter there was no significant difference in length of enrollment of those who received remedial English treatment or between either of those groups and those who did not have remedial English.
4. The academically disadvantaged students did choose different courses of study than the regular college students. Seven disciplines were excluded from their choices of fields of study. No academically disadvantaged students chose the fields of Physics, English, Spanish, German, Art, Chemistry, Physics, or Behavioral Science. A significantly greater proportion of academically disadvantaged students than of regular college students, graduated in Industrial Education, and they seemed to earn a

moderately higher GPA than did the regular college student. In twelve of the disciplines there were no significant differences in percentage of degrees granted between the academically disadvantaged students and regular college students, nor were there significant differences in GPA.

5. Low composite grade point averages at the end of the first grading period at SMC of the academically disadvantaged students were predictive of dropouts.

The principle recommendations were:

1. That the moratorium placed on the requirement that academically disadvantaged students enroll in the patterns of Basic Grammar previously employed be continued.
2. That administrators of the Office of Admissions and Records at WCC develop more precise diagnosis for identification of the academically disadvantaged student.
3. That administrators of the Office of Admissions and Records at WCC establish procedure for collecting and

storing information concerning attrition to provide data for future research of the "dropout" problem.

4. The Counseling Center should develop, coordinate, and implement special programs for the academically disadvantaged student. These special programs should be of the type of individual consultation and remediation as opposed to the formal course. The Admissions Office should notify the Center when an academically disadvantaged student has enrolled at WCC. Upon receiving this information the Center should establish a working relationship with the student, diagnose the problem and start proceedings for the particular assistance needed, such as academic, social, or financial guidance. The Counseling Center should not be a "Remedial Center" but a clearing house to see that the academically disadvantaged student is aware of the assistance available in a college community and that they are referred to and engaged by those services.
5. That the policy of open admission as utilized for the constituency that WCC serves should be extended to any

student who because of suspected academic deficiency may be refused admittance.

SUGGESTIONS FOR FURTHER STUDY

The following suggestions were made for further study:

1. Research should be done with emphasis on remediation through counseling, after such models as Upward Bound and tutorial programs that have been developed to assist students in minority groups.
2. Studies should be conducted to ascertain the adaptability of such counseling programs for the academic disadvantaged student at WCC.
3. Research designed to determine factors of motivation, self-concepts, financial problems, early marriage, social problems and others which interfere with academic performance should be conducted.

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CHAPTER I

INTRODUCTION

Western Christian College¹ is a private, independent, coeducational, Christian, liberal arts college. It is one of ten colleges sponsored by a Protestant church in the United States. It serves and is supported by members of the church residing in the states of Colorado, Idaho, Montana, Nebraska, and Wyoming. Its educational mission is more than the training of clergy. A statement from the 1971-72 college bulletin defines its goal.²

Education is intended to preserve, transmit and advance knowledge, but Western Christian College also undertakes to develop competent Christian men and women with high moral principles who will readily identify themselves with a redeptive approach to the world's needs.

¹Western Christian College and Maple, Wyoming are fictitious names assigned to a college and its community. However, the components of this research are factual.

²Bulletin of Western Christian College, Maple, Wyoming, Vol. 21, No. 3, 1971-72, p. 129.

Church-related institutions should be responsive to the needs of their constituents. As the technological complexity of a society increases, the level of education required to escape the social and economic consequences of being considered uneducated rises.

Competent Christian men and women of the denomination are believed to be needed to serve in the ministerial, teaching, medical, and other services of the church at home and abroad. Others are needed to engage in business pursuits, government services, research activities, and in all professions on all levels, to become a vital part of a society and thus constitute a strong supportive laity.

There are many persons within the denomination who have completed secondary school who perceive themselves as seriously handicapped, invisibly branded as "academically disadvantaged" because of low scores on college entrance examinations, less than a C average in secondary schools, or ranking in the lower half of their high school graduating classes. Providing higher educational opportunities for each student has often been neglected by colleges and universities.

No social or intellectual change can be ignored by the church if it is intent upon becoming relevant to

society which it seeks to influence and to which it would bear its Christian witness. With a mission of serving any who desire further Christian denominational higher education WCC keeps an open door to students who represent a broad range of intellectual abilities.

In attempting to meet the educational needs of those at the lower end of this range, a number of problems have been encountered. One of these problems has been that WCC's attempts to meet the special need of students with deficiencies in English appeared less than successful.

Beginning in the fall of 1961, WCC introduced a remedial program in English designed to assist academically disadvantaged students in learning the fundamentals of writing, reading, and speaking at a level established by the English department. All beginning freshmen were required to take a battery of placement tests, which consisted of the School College Ability Test, SCAT (this test was replaced in 1964 by the American College Test, ACT), the Cooperative English Test, the Nelson Denny Reading Test, and the Missouri College English Test.

From the fall of 1961 through the spring of 1963, students who scored under a raw score of forty-seven on the Cooperative English Test, and from the fall of 1964

through the spring of 1972, those who achieved a standard score of fifteen or lower on the ACT, were operationally defined as academically disadvantaged for college level work and were required to enroll for a semester in Basic Grammar 01, concurrent with English 1. All others proceeded directly into English 1. Between the fall of 1961 and the spring of 1966, 2,638 grades were recorded in English 1 and 2. There was a failure rate of 4.7 per cent.

In the fall of 1966, a different approach to the remedial program was begun. It lasted through the spring of 1970. The program required that the academically disadvantaged student be excluded from English 1 until he received a C grade for satisfactory completion of Basic Grammar 01. The remedial program was extended from a one-semester to a two-semester course. This meant, in effect, that such students were delayed one full year in entering English 1, a basic course for almost all college study. During this period the failure rate for 3,200 grades recorded in English 1 and 2 was 4.5 per cent. It should be observed that the 3,200 grades represent regular college freshmen and second-year academically disadvantaged students in English 1 and 2.

The administration was concerned with the fact that a course which was intended to assist the academically disadvantaged student in passing freshman English had apparently failed. The administration insisted that the English department suspend its remedial program until research could be conducted. During the 1970-71 academic year, no remedial program was attempted.

Western Christian College was visited in April of 1972 by accreditation teams from the regional Association of Colleges and Schools, NCATE, and General Educational Board of the church. Recommendations of these groups were that remedial programs be reinstated at WCC to meet the specific needs of its academically disadvantaged students, and that steps be taken to reduce the overall dropout rate.

These recommendations require research, decision and action. Should the former remedial programs be reestablished, or a new approach be developed? What students have constituted the dropout problem? Were they the academically disadvantaged students? Because little was known about the remedial program and the academically disadvantaged student it was proposed that research be done. This study has constituted one step in that research.

Purpose of the Study

The assessment of the remedial English program in terms of later performance of the academically disadvantaged students was of concern to the faculty and administration of WCC. It was of special concern to the academically disadvantaged young adult whose interest it was to escape the social and economic consequences presented by inadequate education.

This research was undertaken to investigate the performance in English 1, subsequent academic achievement and other selected variables of the academically disadvantaged young adult at WCC. The variables were: performance on placement tests, patterns of remediation, grades received in English 1, grades received in courses taken by most students at WCC, major fields of study in which students finally graduated, years students were retained in college and composite first semester grade point average (GPA).

Questions were addressed by ascertaining relationships among the different factors, to be specific:

1. What percentage of entering freshmen each year were designated as academically disadvantaged because they

received a standard score of 15 or below on the English section of the ACT?

2. What was the correlation between English ACT standard score for entering freshman each year from 1961-71 and grades earned in English 1?

3. Did academically disadvantaged students who received remedial English treatment receive higher grades in English 1 than those academically disadvantaged students who received no remedial English treatment? If the answer was yes, which of the two remedial groups received higher grades?

4. Did regular college students receive higher grades in each of the selected courses (American History, Survey of Civilization, Teaching of Jesus, Foundations of Apostolic Movement, English Literature, and Speech) than did the academically disadvantaged students?

5. Did academically disadvantaged students who received remedial English treatment receive higher grades in each of the selected courses (American History, Survey of Civilization, Teaching of Jesus, Foundations of Apostolic Movement, English Literature, and Speech) than did academically disadvantaged students who received no

remedial English treatment? If the answer is yes, which of the two remedial groups received higher grades?

6. Did academically disadvantaged students eventually graduate from WCC? If so, in what proportions? How did these proportions compared with proportions of regular college students? How long did it take for academically disadvantaged students to graduate?

7. In what disciplines did the academically disadvantaged students earn degrees? What were the differences, if any, between the proportions of academically disadvantaged students who graduated and the proportions of regular college students who graduated in each discipline in which degrees were earned? What was the difference, if any, between the cumulative GPA of academically disadvantaged students and regular college students at graduation in identical fields of study?

8. What was the difference, if any, between the total combined cumulative GPA in all fields of study between Group I and Group II?

9. What were the differences, if any, among the cumulative GPA of the three academically disadvantaged groups at graduation in identical fields of study?

10. Did retention in college of any or all groups of academically disadvantaged students differ from that of the student body as a whole?

11. Did retention in college differ between remedial English treatment groups or between either or both groups and those academically disadvantaged students who received no treatment? If the answer was yes, which group of students remained in college longer?

12. Did the first semester composite GPA vary between those academically disadvantaged students who received remedial English treatment and those who did not? Were the differences in length of stay in college within each group of the academically disadvantaged students correlated positively or negatively with differences in first semester composite GPA?

Definitions

1. Academically disadvantaged student. This term, as used in this study, denotes those students who had a standard score of fifteen or below on the English section

of the ACT, or a raw score of forty-seven or below on the Cooperative English Test. See Appendix A for a conversion table that establishes comparable scores on various tests.

2. Regular college students were those who had a standard score of sixteen or above on the English section of the ACT, or forty-eight or above on the Cooperative English Test.

3. Remedial program was defined as a program with the goal of removing deficiencies so that students might enter a program for which they previously were not judged to be academically eligible. Operationally, for this study, the remedial program was a course entitled Basic Grammar. For Group I it was a one-semester course to which academically disadvantaged students were assigned concurrently with their participation in English 1 and other freshman level studies. For Group II it was a two-semester course to which academically disadvantaged students were assigned prior to enrollment in English 1.

4. Dropout referred to those students who left WCC. The term would more appropriately be called institutional dropout. It included, in addition to those who never re-enrolled at WCC, the students who requested transcripts to be sent to other colleges.

5. Selected Courses were: Speech, Literature, American History, Survey of Civilization, Teaching of Jesus, and Foundations of Apostolic Movement. These six courses were usually taken by most of the students at WCC.

6. Retention in college as used in this study referred to students who continued as matriculated students at WCC.

7. Retention rate as used in this study referred to the percentage of students who continued as matriculated students at WCC.

Assumptions

The research was based upon the following assumptions:

1. A basic assumption was that minimal levels of skill in reading, writing, and speaking were critical for success in any college curriculum.

2. It was assumed that instructor bias in Basic Grammar would not be a relevant factor, inasmuch as one and the same instructor taught all the sections of Basic Grammar during the time period investigated in this study.

3. It was assumed that instructor's assigned grades were valid indicators of student achievement (See Limitations).

Limitations

1. It was recognized that assumption number three was a major but weak point. However, in the descriptive-type study conducted, it was not deemed pragmatically appropriate or necessary to employ more objective measures, since judgments were, in fact, based upon grades and grade point averages, both basically dependent upon instructor judgment.

2. The instructor's knowledge that some of his students scored low on college entrance examinations may have, without his intention, biased his grading.

3. The study, having important aspects of a longitudinal study, may have been vulnerable to changes in general external conditions relevant to the problem being studied.

4. It was recognized that motivation was important in the learning process. The motivational factors that

drive different students to greater accomplishments than would be expected were not tested or controlled in the comparison groups.

5. The grading system of A, B, C, D, and F was used for screening and categorizing students. It was recognized that these symbols could be questioned as precise and valid measures of achievement. However, given the purposes of study, it was the measurement system being employed and therefore the one to be incorporated in the assessment.

6. The fact that academically disadvantaged students assigned to Group II took English 1 one year later may have biased their grades in that course because they were one year older and had had an additional year of college that the other two groups of academically disadvantaged students had not had before enrolling in it.

Summary and Overview

Performance in English 1, more general academic achievement, retention in college, choice of major field of study, comparative grades in chosen fields and

proportions who finally graduate, among academically disadvantaged students after completion of remedial English at WCC comprises the focus of this study.

In the five chapters questions have been posed, significant data and relationships have been described and analyzed, and conclusions and recommendations have been presented.

This chapter has presented the setting and an introduction to the problem, factors studied, purpose of the study, a set of questions to be answered, definitions, assumptions, limitations, and a summary and overview.

In Chapter II a selected literature concerned with remedial education, academically disadvantaged students, and attrition problems of higher education is reviewed.

A description of the research design and procedures, discussion of the population and data needed and treatment of data and summary are included in Chapter III.

The research findings and discussion are presented in Chapter IV.

In Chapter V a summary of the study, conclusions drawn from it, recommendations, implications, and a concluding statement are found.

The next chapter is devoted to a review of pertinent literature which formed the framework and rationale for the study.

CHAPTER 2

REVIEW OF LITERATURE

As a framework and rationale for the study, literature pertaining to the academically disadvantaged student was reviewed in light of the preceding questions.

Discussion of Remedial English

In addition to keeping an open door to all who desired higher education, some colleges were attempting to serve those students whose intellectual abilities were low as measured by college entrance examinations. A recent investigation of remedial programs reported that test scores were used in identifying low achieving students in 95 per cent of the college surveyed. One-third of the colleges reported that they used the School and College Ability Test (SCAT) to identify students for placement purposes. The American Council of Education Test (ACE) was used by

21 per cent and the American College Test (ACT) by 18 per cent of the colleges. Other colleges used a variety of tests, including the Scholastic Aptitude Test (SAT), and the College Qualification Test (CQT), and various state-administered placement tests.¹

Low achieving students were typically identified as scoring below given percentile on one of these standardized tests. The percentile most frequently used is in the eleventh to fifteenth range. In addition to standardized test scores, many institutions used high school grades to identify low-achieving students. These were typically reported as grade point averages and/or rank in graduation class. Most colleges used a C average as one criterion in identifying students eligible for regular college credit courses. Students ranking in the lower half of their high school graduating classes were those most often identified as low achievers.²

Much of the research that has been done in freshman remedial English has been done in junior colleges. The

¹Richard M. Bossone, Remedial English Instruction in California Public Junior Colleges: An Analysis and Evaluation of Current Practices (Sacramento, Calif.: State Dept. of Education, 1966), p. 13.

²Ibid., p. 14.

composition of the community junior college student body has changed drastically in the last twenty years. Previously students were primarily concerned with traditional four-year college preparation. Today, by contrast, more and more students are entering the "open door" whether or not they have a baccalaureate goal. Many of these students are considered incapable of beginning regular college credit courses. They are students with academic deficiencies that must be remedied. Because of rapid growth of community colleges and the increasing enrollment of students with academic deficiencies, remedial programs have been adopted. Although there is near universal recognition of the problem, only twenty per cent of the community junior colleges surveyed had designed special programs and curricula for academically underprepared students.¹

Community colleges were not alone in needing remedial programs. Private and public colleges have also opened their "doors" to serve this type of student. In research conducted by Helen Garon at the University of Minnesota at Duluth (UMD) it was found that an average of

¹John Losak, "Do Remedial Programs Really Work?," Paper presented at the annual meeting of the American Educational Research Association, New York, February, 1971.

thirteen per cent of entering freshmen were placed in remedial English.¹

Most colleges appear to let the student take his chances. Losak noted that "very little research regarding the success or failure of students with low ability is reported by the community college." Blocker states that "Those that do have so called developmental remedial programs have frequently organized them in a haphazard fashion and have uniformly ignored the responsibility to evaluate their contribution honestly."²

In a 1968 publication, John E. Rouche stated that "with few exceptions, little research has been implemented to evaluate the effectiveness of these remedial programs."³

Again Rouche notes that:

No national figures are available that reflect the millions-of-dollars effort at remediation

¹Helen Garon, "Do Remedial English Students Eventually Earn Degrees?," The Journal of the Conference on College Composition and Communications, Vol. 19, No. 1 (February, 1968), p. 142.

²Clyde Blocker, Robert Plummer, and Richard C. Richardson, Jr., The Two Year College: A Social Synthesis (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), p. 208.

³John F. Rouche, Salvage, Redirection, or Custody? Remedial Education in the Community College (Washington, D.C.: American Assoc. of Junior Colleges), p. 4.

by the nation's community colleges. Perhaps more important, there is little research to indicate whether or not such an effort is successful.¹

Bossone, in his California Public Junior College study, states that the remedial programs were not highly successful.

The large majority of students who enroll in remedial courses fail to complete those courses satisfactorily and are doomed to failure and are forced to terminate their education. In one typical California public junior college, of the eighty per cent of the entering students who enrolled in the remedial English, only twenty per cent of that number continued on into regular college English courses.²

Stevenson, in a study of remedial programs for disadvantaged students in ten public community colleges in Florida, identified the students who account for the high failure and drop-out rates as being from the lower end of the socio-economic structure of the community. She also notes that learning was motivated by success, and that the student must be guided toward success.³

¹Ibid., p. 42.

²Bossone, p. 15.

³Jane L. Stevenson, Implementing the Open Door: Compensatory Education in Florida's Community College, Phase II--English Composition (Washington, D.C.: Sept. 1970) (ERIC).

The assigning of letter grades has traditionally been the method of describing success or failure. Stevenson notes that regular A to F grades were given by five colleges of the ten she studied; A to C grades with various methods of avoiding failing grades (NC, W, or X) were given by four others. One college gives S (satisfactory) and N (audit). Only one college gives no credit at all for remedial courses. In general, the students in remedial English were being "evaluated" on a scale of grades as given not only to those in remedial English but also to those students in Freshman English.¹

Arthur Cohen speaks more sharply about the marking system. He feels that it was a method for screening and sorting students; "it suggests to the students that they will be judged rather than taught"; it "sorted students on a scale that pitted one against another"; marked on a basis of how well "they performed in comparison with their fellows"; the "less able" were screened out.²

Ferrin, in speaking of the remedial classes, refers to them as an academic barrier. He stated that the nature

¹Ibid., p. 25.

²Arthur M. Cohen, Dateline '79: Heretical Concepts for the Community College (Beverly Hills, California: Glen-coe Press, 1969), p. 8.

of the curriculum and the types of skills needed to survive in the "academic jungle" tend to build the barrier higher. For many, the knowledge that they bring inferior reading and writing skills to the institution was enough to keep them from attending. These and others viewed relegation to remedial courses as another piece of evidence that they were educational failures. According to research findings, students in such courses tended to achieve limited success in college. The Chicago Loop Junior College reported that only about one per cent of the students enrolled in programs of remedial courses and special counseling later succeeded in the transfer curriculum.¹

In a 1971 study of remedial programs at Miami Dade Junior College, little evidence was found to support their continuance.

Results indicate that the program does not produce any meaningful differences in student withdrawal from college, is not effective in raising grade point average during the second semester of college enrollment to a C level and does not result in significantly higher scores on a reading or writing test when compared with the control effects by race or sex.²

¹R. Ferrin, Barriers to Universal Higher Education, Access Research Office College Examination Board, Palo Alto, California (March, 1971), p. 62.

²J. Losak, Do Remedial Programs Really Work? ERIC ED 047 975 (Feb. 1971), p. 15.

There were certain programs which do seem to be successful, such as the one at Forest Park Community College in St. Louis and the experiment in higher education at Southern Illinois University, but these were strongly oriented toward student interests and capabilities rather than institutional goals and prescribed requirements.

Discussion of College Drop-outs

College educators have coined the phrase "revolving door" in criticizing the extremely high attrition rates of the academically disadvantaged student who has entered the "open door" of the community colleges. The open door was not a new concept. Hechinger quotes Dr. Lester Brailey, dean of City University of New York's Office of Admission Services, "that when he entered Ohio State in the 1930's, that university had been practicing open admissions for 50 years."¹

John Summerskill's findings concur with the above statement that 50 per cent of the freshmen drop out over a

¹F. M. Hechinger, "Open Admissions: Prophets of Doom Seem to Have Been Wrong," The New York Times (Sunday, March 28, 1971).

four-year period. He reviewed 35 different studies that cited drop-out rates for classes at hundreds of various colleges and universities from 1913 to 1962. Median values were computed for the aggregate of these studies which resulted in: median loss in four years, 50 per cent; median per cent graduated in four years, 37 per cent (transfers were not considered losses to higher education).¹

Bernard Bond states that of the one million freshmen beginning college in America each fall, only one half will see commencement.² The assistant superintendent for education of the disadvantaged in New York City schools, H. Schreiber, noted that the school holding power for 1959-71 would be as follows: For every 10 pupils in the fifth grade in 1959-60, 4.0 would enter colleges in the fall of 1967 and 2.0 would be likely to earn 4-year degrees in 1971.³ In Astin's study of 1972, he found that close to one half (47 per cent) received a baccalaureate degree at

¹Nevitt Sanford and John Summerskill, "Drop-outs from College," The American College (New York: Wiley and Sons), p. 630.

²Bernard Bond, "An Unsolved Mystery, College Students: Why They Drop Out," The Kiwanis Magazine, LIII (September, 1968), pp. 22-25.

³H. Schreiber, "Who Drops Out and Why," American Education, Vol. 6 (November, 1970), pp. 10-12.

the same institution four years after entering that institution.¹

According to Summerskill, there was a significant relationship between academic performance and college attrition. He drew up a number of statements from his extensive study that describe this relationship:

1. The median value was 33%, i.e., one out of three dropouts occurred for academic reasons.
2. Academic failure was typically cited as the leading single cause of dropouts or as one of two or three leading causes--depending upon the college studied.
3. The relationship between grades and attrition appears to be continuous in that the probability of dropping out varies inversely with grade point averages throughout the whole distribution of grades at a given college.
4. Prediction of dropouts is better at the lower end of the grade scale, i.e., students with poor grades are likely to drop out while students with excellent grades may drop out.
5. Poor failing grades at the beginning of a college career are highly productive of dropouts.²

¹Astin Alexander, College Dropouts: A National Profile, ACE Research Reports, Vol. 7, No. 1 (February, 1972), p. 19.

²Nevitt Sanford and John Summerskill, "Drop-outs from College," The American College (New York: Wiley and Sons), p. 649.

According to Summerskill, prior research does not permit the assumption that colleges have information on their dropouts. He states that as early as 1939 and 1948, McNeeley and MacIntosh, respectively, found that many institutions possess no knowledge concerning percentage of dropouts and that a canvass by Craven in 1957 had to be abandoned because of a high percentage of blank and incomplete returns.¹

In a later study, Astin found that:

the few published national studies (e.g., Iffert, 1957; Trent and Medsker, 1968; Astin and Panos, 1969) suffer from one or more potentially serious defects: incomplete sampling of institutions, inadequate students input data, or complete reliance on student responses to mailed follow-up questionnaires.²

Summary

In summary it seems reasonable to conclude that:

1. Since research findings concerning the relationship between academic achievement and remedial

¹Ibid., p. 625.

²Alexander Astin, College Dropouts; A National Profile, Research Report, American Council on Education, Vol. 7, No. 1, 1972, Washington, D.C.

programs were not entirely consistent, further research was appropriate.

2. There was a need for continuing re-examination of length of enrollment, chosen fields of study, tests of academic ability, and academic performance of the academically disadvantaged student that serve as the basis for current policy on admission, instruction and counseling.

3. The failure on the part of some colleges and universities to study the academically disadvantaged student has denied the administrative officers and faculties valuable information in the area of serving constituent needs.

CHAPTER III

METHODS AND PROCEDURES

Introduction

The purpose of this investigation was to assess the remedial English program in terms of later performance in English 1, subsequent academic achievement and other selected factors of academically disadvantaged young adults at WCC who had participated in it. In this chapter the procedures employed in conducting that assessment are described.

Population

The student population was analyzed by freshman classes for each year of the study, 1961-1971, according to:

1. Scores on Placement Tests
 (Cooperative English and
 American College Test)¹

Students were identified upon entry into the freshman year as "academically disadvantaged" (see definitions, page 9) and "regular" (see definitions page 10). Of the 4,135 students who entered WCC during the 11 years under study, 1961-1971 inclusive, 559 were identified as academically disadvantaged students. This classification was based solely upon scores made on placement tests. All whose scores on the Cooperative English Test (1961-1963) were below 48, and all whose scores on the English scale of the American College Test (1964-1971) were below 16, were so identified.

2. Pattern of Remedial English
or No Remedial English to which
Academically Disadvantaged
Students Were Assigned

Since it was the purpose of the study to evaluate the relationship of remedial English to later academic

¹Scores on the Cooperative English Test, administered during 1961, 1962 and 1963, were converted to equivalent American College Test (ACT) scores. The ACT was

performance, the 559 academically disadvantaged students were carefully screened to eliminate subjects whose special situations would systematically contaminate those relationships. Subjects who carried less than twelve semester hours, those who were foreign students, those who completed less than one year of college, and those who had an "incomplete" or "withdrawal" in English 1 were considered to be ineligible for assignment to a comparison group. This screening process reduced the academically disadvantaged population for the study to 315 students.

The academically disadvantaged population was then divided into three comparison groups:¹

Group I consisted of 120 academically disadvantaged students who enrolled in and completed one semester of Basic Grammar concurrently with the first semester of English 1 between the fall of 1961 and the spring of 1965.

administered continuously beginning in 1964; and scores on the English scale of that test, and the ACT equivalent of the Cooperative English Test scores for earlier years were used on all computations involving placement scores. (See Appendix B for chart used in conversion.) Thus all placement test scores were expressed as ACT scores.

¹See Appendix D for data on individual subjects recorded by group assignment.

Their mean English standard ACT score was 12.65. These students enrolled in both Basic Grammar and English 1 as freshmen.

Group II consisted of 133 academically disadvantaged students who enrolled in and completed two semesters (one academic year) of Basic Grammar prior to enrollment in English 1 between the fall of 1965 and the spring of 1970. Their mean English standard ACT score was 12.81. These students enrolled in Basic Grammar as freshmen and in English 1 as sophomores.

Group III consisted of 62 academically disadvantaged students who enrolled in English 1 without Basic Grammar having been taken either prior to or concurrent with that enrollment between the fall of 1970 and the spring of 1972. Their mean English standard score was 12.87. These students enrolled in English 1 as freshmen.

3. Grades Received in English 1

Two populations were used in this part of the study.

First, a sample of 20% was drawn from the total eligible freshman population between 1961-1971. The sample which consisted of 823 subjects was selected randomly by throwing a die and beginning with the number that appeared on the die, every fifth name was then chosen from the freshman class rosters. The rosters contained only first-time-in-college freshmen for each year of the study. If for some reason the fifth name did not fit the sample (those who carried less than twelve semester hours, those who were foreign students, those who completed less than one year of college, and those who had an "incomplete" or "withdrawal" in English 1), the name below it was selected. If that name did not fit the sample, the name below it was used. This happened seven times.

The second population consisted of the 315 academically disadvantaged students who were assigned to the comparison groups (Group I, Group II, and Group III).

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4. Grades Received in Six
Selected Courses which
Were Generally Taken by
Most Students at WCC

Two populations for this factor were assembled. First, the population of academically disadvantaged students (subdivided into Group I, Group II and Group III). Second, all students (both regular and academically disadvantaged) who had enrolled in each of the selected courses, also subdivided according to time periods. The time periods were identical to those which differentiated Group I, Group II, and Group III (Fall 1962-Spring 1966, Fall 1966-Spring 1970 and Fall 1970-Spring 1972).

5. Major Field of Study in
which Students Finally
Graduated; Years Required
for Graduation and Grade
Point Average at Graduation

First, all academically disadvantaged students from Group I and Group II who later graduated with associate and baccalaureate degrees were regrouped by field of study. Second, all associate and baccalaureate degree graduates of the freshman classes from 1961-1968 (eight years),

exclusive of graduates who had been classified in Group I and Group II as academically disadvantaged, were similarly regrouped by field of study.

Group III of the academically disadvantaged students was eliminated from this part of the study, as were all regular college students who entered as freshmen in 1969 or later, because insufficient time had elapsed that would have allowed them to graduate.

In the same manner academically disadvantaged students from Groups I and II were regrouped according to years required to graduate; and they were again grouped according to overall grade point average of each.

6. Years Each Student Was
Retained (Continued as
A Matriculated Student)
at WCC

There were two populations associated with this variable. The first included all academically disadvantaged students: Group I, Group II, and Group III. The second included all regular college students who enrolled at WCC, exclusive of the academically disadvantaged student.

Collection of Data

The collection of the data for each year of the study, 1961-1972, was done according to:

1. Scores on Placement Tests

From the Guidance and Testing Office, a list containing the placement test scores for each freshman for each year of the study was procured. The 559 academically disadvantaged students, from which the comparison groups of 315 students were eligible, were identified from this source, as were the regular college students.

2. Pattern of Remedial English or No Remedial English to Which Academically Disadvantaged Students Were Assigned

After identifying the academically disadvantaged by using information gained from Scores on Placement Tests, as described above, transcripts from the Office of Admissions and Records were checked, further identifying those 1961-64 freshmen who enrolled simultaneously in Basic Grammar and English 1. They were then classified in Group I. Those

academically disadvantaged students who enrolled in Basic Grammar as freshmen and in English 1 as sophomores in 1965 through 1969 were classified in Group II. Those freshmen who entered in 1970 and later and were identified as academically disadvantaged were classified in Group III. This last group did not participate in Basic Grammar. Also, neither members of this group nor their regular student classmates were included in computations involving graduation, because of recency of their admission to WCC.

3. Grades Received in English 1

These grades, for all students included in the study were taken from the students' transcripts in the Office of Admissions and Records.

4. Grades Received in Courses
Which Are Generally Taken
By Most Students at WCC

First, by reference to enrollment data for required and frequently elected courses, the six most generally taken courses in the college were identified. They were: American History, Survey of Civilization, Teaching of

Jesus, Foundations of Apostolic Movement, English Literature, and Speech. Second, a study of the permanent records of the three groups of academically disadvantaged students yielded the grades in each of the six selected courses of those academically disadvantaged students who took those courses. Third, from copies of class rolls and grade report sheets from the Office of Admissions and Records, a mean GPA was calculated for each class of the six selected courses. The means were recorded corresponding to the time periods when the comparison groups enrolled in each of the courses (Fall 1962-Spring 1966, Fall 1966-Spring 1970, and Fall 1970-Spring 1972).

5. Major Field of Study in Which
Students Finally Graduated,
Years Required for Graduation,
and Grade Point Average at
Graduation

First, the Office of Records and Admissions supplied a complete list of graduates for each year from 1962 through 1972. The graduation list provided the name of each graduate, the major field of study, the degree awarded (associate or baccalaureate) and the cumulative GPA of each

graduate. Second, the transcripts of the academically disadvantaged students of Group I and Group II provided dates of admission and years of attendance. Group III was not included because insufficient time had elapsed that would have allowed them to graduate.

6. Years Each Student Was
Retained (Continued as
A Matriculated Student)
at WCC

Retention rates were determined for both academically disadvantaged and regular college students by comparing the entering class roster for the fall semester of each year of the study with the WCC student roster for each succeeding year and calculating the number of years between entry and exit (by withdrawal, transfer or graduation) for each student.

Group III was not included because insufficient time had elapsed that would have allowed them to return for the third and fourth year to compare with other groups.

Data Analysis

The data that were collected for each academically disadvantaged student were keypunched into data cards. Each card was assigned a code number which would enable the identification of a particular student if necessary (see Appendix D). The computer at WCC's Computer Center was used for analysis of Group I, Group II and Group III of the academically disadvantaged students.

The data that were collected for the regular college students were aggregated in terms of mean scores, grades, fields of study, and grade point averages and placed in tables for analysis.

As a first step in analysis, a decision was made to run two preliminary data analyses.

1. To test the correlation between English ACT standard scores and grades earned in English 1. The sample used in this test of correlation consisted of the 823 subjects selected randomly from the freshman population of 1961-1971. A Pearson product-moment correlation coefficient was calculated to measure the relationship. An r value of .51 was obtained. This implied that there was a

positive, but weak relationship between English ACT standard scores and grade earned in English 1. From this low level of correlation we would infer that a sizeable number of students with low English ACT standard scores earned high grades and many with high English ACT standard scores received low grades in English 1.

2. To determine if the three groups of academically disadvantaged students represented the same population.

The mean English ACT standard scores of the three groups all come from a reasonably homogeneous population of academically disadvantaged students. However, in order to be certain, a t-Test was conducted to determine whether mean difference between the three groups were due to chance or to differences in ability. The t-scores between Group I and Group II, Group II and Group III, and Group I and Group III were .21, .19, and .31 respectively. The critical t-value for a two-tailed test at the five percent point¹ with greater than 120 degrees of freedom was read from a table

¹The level (or point) of confidence utilized in statistical computations throughout was five percent.

of t-values.¹ As expected in a case where subjects were assigned on the basis of a uniform cutting score on equivalent tests, the three groups were regarded as representing the same population.

The questions that formed the basis for the study were posed in Chapter I and are restated here. Each is followed by a statement of how the data were analyzed. If the questions were best answered by simple inspection of the data, the data were placed in tables and the questions were answered by reference to that material. However, if the answering of questions required statistical treatment of data, null hypotheses were established.

1. What percentage of entering freshmen each year, 1961-1971, were designated as academically disadvantaged because they received a standard score of 15 or below on the English section of the ACT 1964-1971 or the equivalent score of 47 or below on the Cooperative English Test 1961-1963?

¹Henry E. Garrett and R. S. Woodworth, Statistics in Psychology and Education (New York, N.Y.: Longmans, Green and Co., 1961), p. 449.

The numbers of freshmen and of academically disadvantaged students for each year were recorded in a frequency distribution table and the proportion of freshmen represented by academically disadvantaged in each case was computed and expressed as a percentage.

2. What was the correlation between English ACT standard scores for students entering as freshmen each year from 1961-1971 and grades earned by the same students in English 1?

The sample used in this test of correlation consisted of the 823 subjects selected randomly from the freshman population of 1961-1971. Means for ACT English scores and English 1 grades were calculated for each year. Then the distribution of standard ACT scores was developed and the same was done for mean English 1 grades. A Pearson product-moment correlation was calculated to measure the relationship between the ACT English standard scores prior to enrollment and the English 1 grades later received by all classes of students for the total period.

3. Did academically disadvantaged students who received remedial English treatment receive higher or lower grades in English 1 than those academically disadvantaged students who received no remedial English treatment? If the answer was "yes" (either higher or lower), which of the two remedial groups received higher or lower grades?

To simultaneously answer the two questions, four null hypotheses were formulated:

Null Hypothesis 1: There was no significant difference in the mean English 1 GPA between academically disadvantaged students who received remedial English treatment (Group I and Group II) and academically disadvantaged students who received no remedial English treatment (Group III).

Null Hypothesis 2: There was no significant difference in the mean English 1 GPA between Group I and Group II.

Null Hypothesis 3: There was no significant difference in the mean English 1 GPA between Group I and Group III.

Null Hypothesis 4: There was no significant difference in the mean English 1 GPA between Group II and Group III.

The mean GPA and standard deviation for each group was obtained and a t-test was used to measure the difference in distribution of GPA's in each case.

4. Was the GPA of the academically disadvantaged students higher or lower in each of the six selected courses (American History, Survey of Civilization, Teachings of Jesus, Foundations of the Apostolic Movement, English Literature and Speech) than the over-all GPA of all students who took those courses?

The mean GPA for college students enrolled in each selected course was recorded in a frequency table by time periods identical to those which differentiated academically disadvantaged student comparison Groups I, II, and III (Fall 1962-Spring 1966, Fall 1966-Spring 1970, and Fall

1970-Spring 1972). The mean GPA for each selected course in which academically disadvantaged students enrolled was computed and recorded by comparison groups, Group I, Group II, and Group III. These means were distributed in the same table as the mean GPA for all college students who enrolled in those courses.

5. Did academically disadvantaged students who received remedial English treatment have higher or lower grades in each of the selected courses (American History, Survey of Civilization, Teachings of Jesus, Foundations of Apostolic Movement, English Literature and Speech) than those academically disadvantaged students who received no remedial English treatment? If the answer was "yes" (either higher or lower), which of the two remedial groups received higher or lower grades?

To simultaneously answer the two questions, four null hypotheses were formulated:

Null Hypothesis 5: There was no significant difference in each of the selected courses, between mean GPA's of academically disadvantaged students who received

remedial English treatment (Group I and Group III and mean GPA's of academically disadvantaged students who received no remedial English treatment (Group III).

Null Hypothesis 6: There was no significant difference in mean GPA between Group I and Group II in each of the selected courses.

Null Hypothesis 7: There was no significant difference in mean GPA between Group I and Group III in each of the selected courses.

Null Hypothesis 8: There was no significant difference in mean GPA between Group II and Group III in each of the selected courses.

The same frequency table was used here for the academically disadvantaged students that was constructed to answer Question 5.

The mean GPA and standard deviation for each group was obtained and a t-Test was used to measure the difference in distribution of GPA's in each case.

6. Did academically disadvantaged students eventually graduate from WCC? If so, in what proportions? How long did it take for an academically disadvantaged student to graduate?

The numbers of academically disadvantaged students from the freshman classes of 1961-1968 who graduated were recorded in two frequency distribution tables, one for students earning baccalaureate degrees and one for students earning associate degrees, according to the number of years it took to graduate. The proportions of academically disadvantaged students who eventually graduated were expressed in percentages.

7. In what disciplines did the academically disadvantaged students earn degrees? What were the differences, if any, between the proportions of academically disadvantaged who graduated and the proportions of regular college students who graduated in identical disciplines in which degrees were earned?

The answer to the first portion of the question was found by simple inspection of a table.

All academically disadvantaged students from Group I and Group II who graduated with associate and baccalaureate degrees were grouped by field of study, frequency of graduates and cumulative GPA for each field. In the same frequency distribution table all associate and baccalaureate degree graduates of the freshman classes from 1961-1968, exclusive of graduates who had been classified in Group I and Group II, were similarly grouped by field of study, frequency of graduates, and cumulative GPA for each field.

To answer the second half of the question a null hypothesis was formulated:

Null Hypothesis 9: There was no significant difference between the percentages of degrees received by academically disadvantaged students and by regular college students in identical fields of study at WCC.

The percentages and standard deviations for each field of study were obtained and a t-Test was used to measure the difference in the proportions of graduates in each case.

8. What are the differences, if any, between the two remedial English treatment groups of academically disadvantaged students, Group I and Group II in terms of GPA, and proportions who received degrees in identical disciplines chosen?

To answer the question a null hypothesis was formulated.

Null Hypothesis 10: There was no significant difference between GPA and the percentage of degrees received in identical fields of study for Group I and Group II.

All academically disadvantaged students from Group I who graduated with associate or baccalaureate degrees were grouped by degree received, field of study, frequency of graduates and cumulative GPA for graduates in each field. In the same table of frequency distribution, all academically disadvantaged from Group II who graduated from WCC were similarly grouped.

The percentages and standard deviations for each field of study were obtained and a t-Test was used to measure the differences in GPA and proportions of graduates in each case.

9. What was the difference, if any, between the total combined cumulative GPA in all fields of study between Group I and Group III?

To answer the question a null hypothesis was formulated.

Null Hypothesis 11: There was no significant difference between the combined cumulative GPA in all fields for Group I and Group II.

The same frequency distribution was used that was constructed for Question 8.

The combined cumulative GPA and standard deviation for each group was obtained and a t-Test was used to measure the difference in distribution of GPA's between Group I and Group II.

10. Did retention in college of the academically disadvantaged student who received remedial English treatment (Group I and Group II) differ from that of the student body as a whole (excluding all academically disadvantaged students in Group I, Group II and Group III)?

A null hypothesis was formulated to answer the question.

Null Hypothesis 12: There was no significant difference between the percentage of retention in college of academically disadvantaged students and that of regular college students.

A frequency distribution was constructed for academically disadvantaged students who had remedial English treatment (Group I and Group II) and who re-enrolled two, three, and four years after matriculation. The frequency table also included all college students (excluding academically disadvantaged students in Group I, Group II, and Group III) who re-enrolled two, three, and four years after matriculation.

The percentages and standard deviations for each year's retention rate were obtained. A t-Test was used to measure the difference in the proportions of retention for each year between the groups.

11. Did retention in college differ between English treatment groups or between either or both groups and those academically disadvantaged students who received no treatment? If the answer was "yes" (longer or shorter), which group of students remained in college for a longer or shorter period of time?

To simultaneously answer the two questions four null hypotheses were formulated.

Null Hypothesis 13: There was no significant difference between the percentage of retention into the second year¹ of college of academically disadvantaged students who received remedial treatment (Group I and Group II) and that of academically disadvantaged students who received no remedial English treatment (Group III).

Null Hypothesis 14: There was no significant difference between the percentage of retention in college of Group I and that of Group II.

¹The hypothesis was limited to the second year in college because the academically disadvantaged students placed in Group III had not been in attendance at WCC long enough to be included in an extended study.

Null Hypothesis 15: There was no significant difference between the percentage of retention into the second year of college of Group I and that of Group III.

Null Hypothesis 16: There was no significant difference between the percentage of retention into the second year of college of Group II and that of Group III.

A frequency distribution was constructed for Group I and Group II of academically disadvantaged students who re-enrolled two, three, and four years after matriculation. Group III's distribution was recorded for the second year after matriculation.

A t-Test was used to measure the difference in the proportions of retention for each year between the groups.

12. Did first semester composite GPA's differ between those academically disadvantaged students who received remedial English treatment (Group I and Group II) and the academically disadvantaged students who received no remedial English treatment? Were the differences in length of stay in college within each group of the academically disadvantaged correlated positively or

negatively with difference in first semester com-
posite GPA?

Four null hypotheses were formulated to answer the first portion of the question.

Null Hypothesis 17: There was no significant difference between the first semester cumulative GPA according to two, three, or four years' retention in college among various groups of academically disadvantaged students.

Null Hypothesis 18: There was no significant correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I and Group II.

Null Hypothesis 19: There was no significant correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I.

Null Hypothesis 20: There was no significant correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group II.

A frequency table was constructed recording the GPA according to two, three, and four years' retention in college for each group of academically disadvantaged students.

The statistical test used to measure significant difference in null hypothesis seventeen was a t-Test.

A Pearson product-moment correlation was calculated to measure relationships between first semester cumulative GPA and length of stay in college in null hypotheses eighteen, nineteen, and twenty.

Summary

In summary, Chapter III has contained the description of the population, statements as to how the data were gathered, and two preliminary data analyses. The questions from Chapter I were restated, null hypotheses were formulated, and statements relative to statistical tests used were given.

The results of this study are reported in Chapter IV.

CHAPTER IV

FINDINGS

The research was undertaken to assess the remedial English program in terms of later performance in English 1, subsequent academic achievement and other selected factors of the academically disadvantaged young adult at WCC. The results of the data analyses of Chapter III are discussed within this chapter.

Question 1. What percentage of entering freshmen each year 1961-71, was designated as academically disadvantaged because they received a standard score of 15 or below on the English section of the ACT, 1961-1971, or the equivalent score of 47 or below on the Cooperative English Test, 1961-1963?

Three facts in particular merited notice in the observation of the data in Table 1. The first fact was that 13.5 percent of the total freshman population of WCC during the eleven-year study was defined as academically disadvantaged. This is very similar to that of Helen Garron's findings at University of Minnesota at Duluth where 13 percent

TABLE 1

DISTRIBUTION OF ACADEMICALLY DISADVANTAGED STUDENTS
IN FRESHMAN CLASSES BY YEARS AT WCC (1961-71)

Year	ADS	Freshman Class Size	Percentage of ADS	Mean Eng. ACT Score	Mean Eng. I GPA
1961	36	330	10.9	18.64	2.17
1962	23	231	10.0	16.86	2.22
1963	21	310	6.8	21.35	2.40
1964	74	339	21.8	16.81	1.80
1965	86	446	19.3	19.67	2.23
1966	53	342	15.5	19.53	2.17
1967	44	407	10.8	20.28	2.26
1968	39	406	9.6	19.42	2.14
1969	50	426	11.8	20.63	2.36
1970	50	435	11.5	19.47	2.21
1971	83	463	17.9	19.21	2.39
Total	559	4135	13.5	19.32	2.23

of entering freshmen were placed in remedial English. (See page 18.) The second fact was that the freshman class of 1963 had the smallest percentage of academically disadvantaged students (6.8%), the highest ACT English score (21.35) and the highest GPA in English 1 (2.40) of the eleven classes. And third, the freshman class of 1964 had the highest percentage of academically disadvantaged students (21.8%), the lowest ACT English standing score (16.81) and the lowest GPA in English 1 (1.80) of the eleven classes.

Question 2. What was the correlation between English ACT standard score for entering freshmen each year from 1961-1971 and grades earned in English 1?

The students who did well on the ACT appeared to perform better in English 1 than those with the low ACT scores. An r value of .51 was obtained. This implied that there was a positive but weak relationship between ACT English standard scores and grades earned in English 1. This positive correlation between ACT English standard scores and English 1 grades can be seen in the data in Table 2. The tendency of the freshman English 1 students was to have a reasonably normal grade distribution with a considerable skew in the C-B grade range.

TABLE 2

DISTRIBUTION OF ACT ENGLISH STANDARD SCORES AND ENGLISH I
GRADES FOR ALL COLLEGE STUDENTS AT WCC (1961-1971)

	A	B	C	D	F
Average Eng. ACT Standard Score	24.31	22.19	18.49	15.90	13.36
Number English 1 Grades	45	261	404	69	44
Percent of English 1 Grades	5.5	31.6	49.1	8.3	5.5

Sample N = 823

Average English ACT Standard Score = 19.32

English 1 GPA = 2.23

It appears that the English department perhaps should not have used the ACT English standard scores as the single basis for assigning academically disadvantaged students to Basic Grammar. There is no evidence that they took high school English grades into consideration. As noted in the Review of Literature a statement by Bossone implies that use of high school grades in conjunction with ACT English standard scores may have been a better predictor of success in

college English than the standard score on the English ACT alone.

Null Hypothesis 1: There was no significant difference in the mean English 1 GPA between academically disadvantaged students who received remedial English treatment (Group I and Group II) and academically disadvantaged students who received no remedial English treatment (Group III).

From the results of the t-Test (Table 3) it appeared that Basic Grammar did not improve the performance of the academically disadvantaged student in English 1 according to grade earned in that class. A t score of 3.12 was obtained for these two groups. The critical t value for a two-tailed test at the five percent point with 313 degrees of freedom was 1.97. Since the value of 3.12 was more than 1.97, the null hypothesis was rejected at the five percent point. There was a significant difference in the mean English 1 GPA between the remedial English students and those that received no remedial treatment. An unexpected finding was that academically disadvantaged students with no remedial English performed at a significantly higher level than did the academically disadvantaged with remedial English in English 1.

TABLE 3

COMPARISON BETWEEN GPA IN ENGLISH I OF ACADEMICALLY
DISADVANTAGED STUDENTS IN REMEDIATION GROUP I & II
AND NONREMEDIATION GROUP III AT WCC (1961-1971)

Group	Fre- quency	English GPA	Degrees of Freedom	t Score	Critical t
Remedial English	253	1.72			
			313	3.12*	1.97
No Remedial English	62	2.00			

*Difference significant at five percent point.

Null Hypothesis 2: There was no significant difference in the mean English 1 GPA between Group I and Group II.

The data in Table 4 indicate that a t score of 2.75 was obtained for these two groups. The critical t value for a two-tailed test at the five percent point with 251 degrees of freedom was 1.97. Since the t value of 2.75 was more than 1.97, the null hypothesis was rejected at the five percent point. There was a significant difference in the mean English 1 GPA for the remedial students between

Group I and Group II. It would seem to indicate that Group II was the better remedial program. However, it must be noted that Group II had an additional year of college that Group I had not had, which may imply that that assumption should not be made. The teaching of Basic Grammar prior to enrolling in English 1 did significantly raise the GPA in English 1.

TABLE 4

COMPARISON BETWEEN GPA IN ENGLISH I OF ACADEMICALLY
DISADVANTAGED STUDENTS IN REMEDIATION GROUP I AND
REMEDIATION GROUP II AT WCC (1961-1971)

Group	Fre- quency	English GPA	Degrees of Freedom	t Score	Critical t
Remediation Group I	120	1.58			
			251	2.75*	1.97
Remediation Group II	133	1.86			

*Difference significant at five percent point

Null Hypothesis 3: There was no significant difference in the mean English 1 GPA between Group I and Group III.

Again, as in Null Hypothesis 1, Basic Grammar did not improve the performance of the academically disadvantaged student in English 1 according to grade earned in that class. In fact it appears that the teaching of Basic Grammar concurrently with English 1 has a detrimental affect on English 1 GPA. In Table 5 a t score of 3.72

TABLE 5

COMPARISON BETWEEN GPA IN ENGLISH I OF ACADEMICALLY DISADVANTAGED STUDENTS IN REMEDIATION GROUP I AND NONREMEDIATION GROUP III AT WCC (1961-1971)

Group	Fre- quency	English GPA	Degrees of Freedom	t Score	Critical t
Remediation Group I	120	1.58			
			180	3.72*	1.97
Nonremediation Group III	62	2.00			

*Difference significant at the five percent point.

was obtained for these two groups. The critical t value for a two-tailed test at the five percent point with 180 degrees of freedom was 1.97. Since the t value of 3.72 was greater than 1.97, the null hypothesis was rejected at the five percent point. There was a significant difference in the mean English 1 GPA between Group I and Group III.

Null Hypothesis 4: There was no significant difference in the mean English 1 GPA between Group II and Group III.

The fourth null hypothesis indicates that remedial English did not improve performance in English 1. A t score of 1.58 was obtained for these two groups, Table 6. The critical t value for a two-tailed test at the five percent point with 193 degrees of freedom was 1.97. Since the t value of 1.58 was less than 1.97, the null hypothesis cannot be rejected. There was no significant difference in mean English 1 GPA between Group II and Group III.

Academically disadvantaged students who received remedial English treatment had lower grades in English 1 than the academically disadvantaged students who received no remedial English treatment. The academically disadvantaged students with no remedial English performed at a

TABLE 6

COMPARISON BETWEEN GPA IN ENGLISH I OF ACADEMICALLY
DISADVANTAGED STUDENTS IN REMEDIATION GROUP II AND
NONREMEDIATION GROUP III AT WCC (1961-1971)

Group	Fre- quency	English GPA	Degrees of Freedom	t Score	Critical t
Remediation Group II	133	1.86			
			193	1.58	1.97
Nonremediation Group III	62	2.00			

significantly higher level than did the academically disadvantaged with remedial treatment, yet, well below the 2.23 GPA (Table 2) in English 1 for the entire freshman classes, 1961-1971.

The academically disadvantaged students who took English 1 concurrently with Basic Grammar had the lowest GPA in English 1 of the three academically disadvantaged groups. In fact it appeared to have had a detrimental affect on the students in earning a higher GPA in English 1.

Question number four deals with the performance of academically disadvantaged students and regular college students in regular academic courses.

Question 4. Was the GPA of the academically disadvantaged students higher or lower in each of the six selected courses (American History, Survey of Civilization, Teaching of Jesus, Foundations of Apostolic Movement, English Literature and Speech) than the over-all GPA of all students who took those courses?

It is apparent that the academically disadvantaged students earned lower grades in all six selected courses than the average for all college students who took these courses. As seen in Table 7, the largest difference in GPA between the academically disadvantaged students and those that took the six selected courses was in English Literature followed by American History and Speech. It must be noted that the difference would be more marked, of course, if the overall GPA in the six selected courses were to exclude the academically disadvantaged students which it does not. See Table 4.

TABLE 7

COMPARISON BETWEEN GPA OF ACADEMICALLY DISADVANTAGED
AND ALL COLLEGE STUDENTS IN SIX SELECTED COURSES AT WCC
(1962-1972)

	Amer- ican His- tory	Survey of Civil.	Teach- ings of Jesus	Found. of the Apostolic Movement	Eng- lish Lit.	Speech
<i>Academically Disadvantaged Students</i>						
Remediation Group I	1.85	2.31	2.00	2.39	1.83	2.22
Remediation Group II	1.89	2.14	2.11	2.26	1.97	2.28
NonRemediation Group III	1.96	2.00	2.00	2.04	2.00	1.93
	1.89	2.15	2.01	2.29	1.89	2.19
<i>All College Students</i>						
(Fall 62-Spring 70)	2.35	2.28	2.24	2.51	2.39	2.37
(Fall 66-Spring 70)	2.37	2.29	2.78	2.47	2.43	2.59
(Fall 70-Spring 72)	2.29	2.23	2.27	2.42	2.43	2.69
	2.34	2.25	2.48	2.46	2.42	2.58

The previous questions dealt with the academically disadvantaged student and the regular college student in six selected courses. The next four hypotheses pertain to the various remediated and nonremediated academically disadvantaged students in six selected courses. The data concerning the numbers of students, level of performance of academically disadvantaged students in each of the six selected courses are on display in Table 8.

TABLE 8

GRADE POINT AVERAGES BY GROUPS OF ACADEMICALLY
DISADVANTAGED STUDENTS IN SIX SELECTED COURSES
AT WCC (1962-1972)

Subject	Remediated		Remediated		Remediated		Non-	
	Group		Group I		Group II		Remediated	
	I	II	F	M	F	M	F	M
American History	94	1.87	40	1.85	54	1.89	25	1.96
Survey of Civilization	85	2.21	36	2.31	49	2.14	9	2.00
Teachings of Jesus	170	2.06	82	2.00	88	2.11	21	2.00
Foundations of Apostolic Movement	109	2.31	38	2.39	71	2.26	24	2.04
English Literature	64	1.90	30	1.83	34	1.97	7	2.00
Speech	91	2.24	41	2.22	50	2.28	15	1.93

*F = Frequency, the number of subjects in group that took that particular course.

*M = Mean GPA.

Null Hypothesis 5: There was no significant difference between the GPA earned by academically disadvantaged students who received remedial English treatment (Group I and Group II) and those earned by academically disadvantaged students who received no remedial English treatment (Group III) in each of the six selected courses.

All of the t scores (Table 9) of the academically disadvantaged students for the six selected courses were below the critical t value for a two-tailed test at the five percent point with their respective degrees of freedom. Hence, the null hypothesis of no significant difference between mean GPA of academically disadvantaged students who received remedial English treatment and the mean GPA of academically disadvantaged students who received no remedial English treatment cannot be rejected in any of the selected courses. Those academically disadvantaged students provided with remedial English performed no better overall than their counterparts with no remediation in GPA in the six selected courses.

Null Hypothesis 6: There was no significant difference in mean GPA between Group I and Group II in each of the selected courses.

TABLE 9

t SCORES AND CRITICAL t VALUES BETWEEN GPA IN SIX SELECTED COURSES FOR
ACADEMICALLY DISADVANTAGED STUDENTS AT WCC (1962-1972)

Course	Remediation I & II and				Remediation I and				Remediation II and				Remediation I and			
	Nonremediation III				Remediation II				Nonremediation III				Nonremediation III			
	df*	t	C _t	df	t	C _t	df	t	df	t	C _t	df	t	df	t	C _t
American History	116	.38	1.98	92	.20	1.99	77	.30	63	.44	2.01	63	.44	63	.44	2.01
Survey of Civilization	91	.77	1.99	83	.85	1.99	56	.51	43	1.05	2.02	43	1.05	43	1.05	2.02
Teaching of Jesus	188	.47	1.97	168	.62	1.98	107	.49	101	0	1.98	101	0	101	0	1.98
Foundations of Apostolic Movement	130	1.45	1.98	107	.70	1.98	93	1.19	60	1.63	2.00	60	1.63	60	1.63	2.00
English Literature	68	.59	2.00	62	.77	2.00	39	.11	35	.60	2.03	35	.60	35	.60	2.03
Speech	103	1.73	1.98	89	.36	1.99	63	1.84	54	1.40	2.01	54	1.40	54	1.40	2.01

df = Degrees of freedom

t = t Score

C_t = Critical t value

As seen in Table 9 the t scores of the academically disadvantaged students for all six selected courses were below the critical t value for a two-tailed test at the five percent point with their respective degrees of freedom. Therefore, the null hypothesis of no significant difference in each of the selected courses, between mean GPA of Group I and mean GPA of Group II cannot be rejected in any of the selected courses. There was no indication that either program of remedial English improved performance in the six selected courses of the academically disadvantaged student more than the other.

Null Hypothesis 7: There was no significant difference in mean GPA between Group I and Group III in each of the selected courses.

All of the t scores found in Table 9 for this pairing of groups of academically disadvantaged students were below the critical t value for a two-tailed test at the five percent point with their respective degrees of freedom. The null hypothesis of no significant difference in each of the selected courses, between mean GPA of Group I and mean GPA of Group III cannot be rejected.

Null Hypothesis 8: There was no significant difference in mean GPA between Group II and Group III in each of the selected courses.

Again, as in hypotheses five, six and seven, all of the *t* scores displayed in Table 9 of the academically disadvantaged students for all six selected courses were below the critical *t* value for a two-tailed test at the five percent point with their respective degrees of freedom. Hence, the null hypothesis of no significant difference in each of the selected courses, between mean GPA of Group II and mean GPA of Group III cannot be rejected.

The data obtained provided the opportunity to compare differences in performance in regular academic courses between academically disadvantaged students who had remedial English and those academically disadvantaged students who did not have remedial English. It appeared that academically disadvantaged students without remediation were as successful in regular academic courses as were those who received remedial treatment. The major implication of such success without remediation was that the regulations requiring groups of academically disadvantaged students to spend one or more terms in remedial work cannot be justified, at

least by these data, for in fact, those who had participated in no remedial English enrolled in and passed regular college level classes. Thus, those academically disadvantaged students provided with the purported benefits of remedial work performed no better over-all than did their counterparts with no remediation in GPA in the six selected courses.

The discussion of Question Six relates to information concerning graduation of the academically disadvantaged student in baccalaureate or associate degree programs.

Question 6. Did academically disadvantaged students eventually graduate from WCC? If so, in what proportions? How long did it take for an academically disadvantaged student to graduate?

Ninety-one of a total of 376 academically disadvantaged students, as seen in Tables 10 and 11, were eventually graduated from WCC, 75 with baccalaureate degrees and 16 with associate degrees. Thus, nearly 25% of academically disadvantaged students who enrolled at WCC from 1961-1968 earned degrees.

Prior to 1965, 64% of the baccalaureate degrees earned by these academically disadvantaged students were awarded after five or more years of study. Since that time

most of these graduates have completed their programs in four years. See Table 10.

TABLE 10

PERCENTAGE OF ACADEMICALLY DISADVANTAGED STUDENTS
RECEIVING BACCALAUREATE DEGREES BY FRESHMAN
CLASSES AT WCC (1961-1971)

Year	ADS	ADS AWARDED DEGREES IN			Total	Percent Receiving Degrees
		4 Years	5 Years	6 Years		
1961	36	2	7	2	11	27.80
1962	23	3	2	3	8	34.78
1963	21	3	1	1	5	23.81
1964	74	5	6	1	12	16.22
1965	86	12	5	0	17	19.77
1966	53	9	3	1	13	24.53
1967	44	5	0	1	6	13.64
1968	39	3	0	0	3	7.69
Totals	376	42	24	9	75	100%

ADS who were graduated with baccalaureate degrees from WCC = 75.

The percentage of ADS enrolled as freshmen who eventually were graduated with baccalaureate degrees = 19.95%.

TABLE 11

PERCENTAGE OF ACADEMICALLY DISADVANTAGED STUDENTS
RECEIVING ASSOCIATE DEGREES BY FRESHMAN
CLASSES AT WCC (1961-1971)

Year	ADS	ADS AWARDED DEGREES IN			Total	Percent Receiving Degrees
		2 Years	3 Years	4 Years		
1961	36	0	1	0	1	2.78
1962	23	0	0	0	0	0.00
1963	21	0	0	1	1	4.76
1964	74	0	0	0	0	0.00
1965	86	1	1	0	2	2.33
1966	53	0	4	0	4	7.55
1967	44	4	2	0	6	13.64
1968	39	2	0	0	2	5.13
Totals	376	7	8	1	16	100%

Academically disadvantaged students who were graduated with degrees = 16.

The percentage of academically disadvantaged freshmen who were graduated with associate degrees = 4.26%.

Fourteen of the sixteen associate degree graduates enrolled as freshmen from 1965-1968. Over 50% required three or more years to finish their two-year programs (See Table 11).

The previous question dealt with the number of academically disadvantaged students that graduated in baccalaureate and associate degrees and with how long it took those graduates to complete their chosen programs. The next phase of the analyses pertains to the various fields chosen by the academically disadvantaged students.

Question 7. In what disciplines did the academically disadvantaged students earn degrees?

Fourteen disciplines were represented among the seventy-five baccalaureate degrees granted to academically disadvantaged students from the freshman classes of 1961-1968. Those disciplines can be found in Table 12. No academically disadvantaged students chose the fields of English, Spanish, German, Art, Chemistry, Physics, or Behavioral Science.

All three disciplines in which associate degrees were available were represented in the sixteen associate degrees granted to academically disadvantaged students from the freshman classes of 1961-1968.

There were seven disciplines not chosen by the academically disadvantaged students, but seventeen other disciplines were. The following discussion considers those

TABLE 12

COMPARISON BETWEEN IDENTICAL DEGREES EARNED BY
ACADEMICALLY DISADVANTAGED STUDENTS AND REGULAR
COLLEGE STUDENTS FOR FRESHMAN CLASS (1961-1968)

Major Field	ADS Who Graduate	GPA	Percent ADS Who Graduate	Regular Grads of SMC	GPA	Percent of Students Who Graduate
Theology- Religion	16	2.33	21.3	181	2.70	17.8
Elementary Education	10	2.70	13.3	198	2.84	19.4
Nursing	10	2.49	13.3	180	2.91	17.7
Business- Accounting	8	2.54	10.7	115	2.69	11.3
Industrial Education	7	2.69	9.3	31	2.62	3.0
Community Service	5	2.52	6.7	6	2.38	.6
History	4	2.46	5.3	50	2.78	4.5
Communications	3	2.36	4.0	36	2.70	3.5
Physical Education	3	2.23	4.0	32	2.57	3.1
Music	3	2.38	4.0	22	3.06	2.2
Biology	2	2.92	2.7	76	2.74	7.5
Mathematics	2	3.05	2.7	23	2.99	2.3
Home Economics	1	2.40	1.3	47	2.84	4.6
Office Administration	<u>1</u>	<u>2.62</u>	<u>1.3</u>	<u>22</u>	<u>2.54</u>	<u>2.1</u>
Totals	75	2.51	100%	1019	2.78	100%

ADS Graduates = 75

ADS Graduates Mean GPA = 2.51

Regular College Graduates = 1019

Regular College Graduates GPA = 2.78

Regular College Graduates including
Fields not represented in academ-
ically disadvantaged students
choices = 1286

seventeen fields and particularly the comparison of graduation rates of academically disadvantaged students to that of regular college students.

Null Hypothesis 9: There was no significant difference between the percentages of degrees received by academically disadvantaged students and by regular college students in identical fields of study at WCC.

The t scores (Table 13) were all below the critical t value with the appropriate degrees of freedom at the five percent point for a two-tailed test except Industrial Education and Community Service with 3.35 and 5.16 t scores respectively. The critical t values with appropriate degrees of freedom are 2.03 and 2.26 respectively. Hence, the multiple null hypothesis of no significant difference between the percentages of degrees received by academically disadvantaged students and by regular college students in identical fields of study at WCC cannot be rejected for fifteen of the fields but can be rejected for Industrial Education and Community Service.

No explanation can be given as to why the academically disadvantaged students failed to choose those seven fields previously mentioned.

TABLE 13

t SCORES AND CRITICAL t VALUES FOR DIFFERENCES
 BETWEEN THE PERCENTAGE OF ACADEMICALLY DISADVANTAGED
 STUDENTS AND REGULAR COLLEGE STUDENTS WHO GRADUATED
 IN IDENTICAL FIELDS AT WCC (BY FRESHMAN CLASSES
 1961-68)

Baccalaureate Degrees	df*	t-Score	Critical t
Theology-Religion	195	1.52	1.97
Elementary Education	196	.70	1.97
Nursing	188	.39	1.97
Business-Accounting	121	.34	1.98
Industrial Education	36	3.35**	2.03
Community Service	9	5.16**	2.26
History	52	.52	2.02
Communications	37	.41	2.02
Physical Education	33	.58	2.03
Music	23	1.29	2.07
Biology	76	1.28	1.99
Mathematics	24	.47	2.06
Home Economics	46	1.13	2.02
Office Administration	21	.29	2.08

<u>Associate Degrees</u>			
Nursing	146	.59	1.98
Office Administration	74	.47	2.00
Medical Records Technology	8	.39	2.31

*df = degrees of freedom

**Difference significant at five percent point.

Two fields that were chosen by the academically disadvantaged students in greater proportions were Industrial Education and Community Service. The GPA's of academically disadvantaged students were also higher than the regular college students in these fields. An implication is that students who may be weak verbally would seek fields where ability could be demonstrated in other ways such as manual skills.

Community Service was dropped as a major in 1965, hence this may account for the significant difference in this field.

In twelve of the disciplines there were no great differences in GPA or in percentage of degrees granted between the academically disadvantaged students and the regular college students.

There was no difference in GPA or in the percentage of degrees granted in the associate degree program between academically disadvantaged students and regular college students.

Null Hypothesis 10: There was no significant difference between the GPA and the percentage of degrees received in identical fields of study for Group I and Group II.

The data concerning the numbers of students, fields of study and GPA in those fields for the two groups who received remediation are on display in Table 14.

All the t scores in Table 15 were below the critical t value for a two-tailed test at the five percent point with their respective degrees of freedom. Hence, the null hypothesis of no significant differences between the GPA and the percentage of degrees received in identical fields of study for the two groups forms of remediation for academically disadvantaged students cannot be rejected.

It appeared that because there were no significant differences in the percentage of degrees received by the two remediated groups of academically disadvantaged students there was no preference in choosing a field of study between those two groups. The no significant differences in cumulative GPA seems to indicate that one remedial program did not increase performance any more than the other in GPA at graduation in identical fields.

TABLE 14

COMPARISON BETWEEN TWO FORMS OF REMEDIATION FOR ACADEMICALLY
DISADVANTAGED STUDENTS IN TERMS OF PERCENTAGE OF SUCH STUDENTS
WHO GRADUATE AND THE GPA THEY ACHIEVE IN IDENTICAL FIELDS OF
STUDY AT WCC (BY FRESHMAN CLASSES 1961-68)

Baccalaureate Degree	Group I			Group II		
	Frequency	GPA	Percent	Frequency	GPA	Percent
Theology- Religion	8	2.21	22.2	8	2.45	20.5
Elementary Education	4	2.80	11.1	6	2.63	15.4
Nursing	2	2.33	5.6	8	2.53	20.5
Business- Accounting	4	2.50	11.1	4	2.58	10.3
Industrial Education	3	2.67	8.3	4	2.69	10.3
Community Service	5	2.52	13.9	*	*	*
History	3	2.37	8.3	1	2.73	2.6
Communications	**	**	**	3	2.36	7.7
Physical Education	3	2.23	8.3	0	0.00	0.0
Music	2	2.40	5.6	1	2.34	2.6
Biology	1	2.86	2.8	1	2.98	2.6
Mathematics	1	3.10	2.8	1	3.05	2.6
Home Economics	0	0.00	0.0	1	2.40	2.6
Office Administration	0	0.00	0.0	1	2.02	2.6
Total	36	2.45	100%	39	2.54	100%
<u>Associate Degree</u>						
Nursing	***	***	***	9	2.33	24.0
Office Administration	2	2.06	100	4	2.54	28.6
Medical Records Technology	0	0.00	0	1	2.64	7.1
Total	2	2.06	100%	14	3.41	100%

Graduates of Group I = 38
Graduates of Group I GPA = 2.45

*Program dropped in 1963

**Program added in 1965

***Program added in 1965

Graduates of Group II = 53
Graduates of Group II GPA = 2.54

TABLE 15

t SCORES AND CRITICAL t VALUES FOR DIFFERENCES BETWEEN THE
GPA AND PERCENTAGE OF DEGREES EARNED IN IDENTICAL FIELDS
FOR ACADEMICALLY DISADVANTAGED STUDENTS GROUP I AND II
(BY FRESHMAN CLASSES 1961-1968)

Baccalaureate Degrees	df*	GPA t Score	Percentage t Score	Critical t value
Theology-Religion	14	1.08	.09	2.14
Elementary Education	8	1.75	.21	2.31
Nursing	8	2.00	.70	2.31
Business-Accounting	6	.59	.21	2.45
Industrial Education	5	.31	.11	2.57
Community Service	NC	NC	NC	NC
History	2	2.98	.45	4.30
Communications	NC**	NC	NC	NC
Physical Education	1	0	.60	12.70
Music	1	0	.09	12.70
Biology	1	0	.09	12.70
Mathematics	1	0	.11	12.70
Home Economics	1	0	.12	12.70
Office Administration	1	0	.12	12.70

<u>Associate Degrees</u>				
Nursing	NC	NC	NC	NC
Office Administration	4	.91	2.50	2.77
Medical Records Technology	NC	NC	NC	NC

*degrees of freedom

NC = No basis for comparison because programs were either being added
or dropped.

Null Hypothesis 11: There is no significant difference between the cumulative GPA in identical fields of study of Group I and Group II.

From Table 16 it was seen that the t-score of .56 was smaller than the critical t-value of 1.97 for a two-tailed test at the five percent point with 73 degrees of freedom. Hence, the null hypothesis of no significant difference between the cumulative GPA in identical fields of Group I and Group II cannot be rejected. It appears that neither program of remediation affected the cumulative GPA for either group.

TABLE 16

COMPARISON BETWEEN CUMULATIVE GPA OF REMEDIATED GROUP I AND REMEDIATED GROUP II IN IDENTICAL DEGREES EARNED AT WCC (1961-1971)

Group	Number	GPA	df	t	C _t
Remediated I	36	2.45			
			73	.51	1.97
Remediated II	39	2.54			

df = degrees of freedom

t = t-scores

C_t = critical value

The focus of null hypothesis 12 is directed toward the retention rates of academically disadvantaged students and regular college students.

Null Hypothesis 12: There was no significant difference between the percentage of retention in college of remediated academically disadvantaged students and that of regular college students.

As seen in Table 17 the t score for the second year in college for the remediated academically disadvantaged students and the regular college students was 5.31. This was well above the critical t value of 1.96 for a two-tailed test at the five percent point. All other t scores are below the critical t point. Therefore, the null hypothesis of no significant differences between retention in college for the remediated academically disadvantaged students and regular college students was rejected for the second year but not for the third and fourth year.

The implication appears to be that remedial education in English was associated with retention of the academically disadvantaged student at WCC from freshman to sophomore years in significant greater proportions than the retention rates of regular college students. However,

TABLE 17

COMPARISON BETWEEN RETENTION RATES OF REMEDIATED ACADEMICALLY
DISADVANTAGED STUDENTS AND REGULAR COLLEGE STUDENTS AT WCC
1961-1971

Group	Number	%	2 Years df	t	Ct	%	3 Years df	t	Ct	%	4 Years df	t	Ct
Regular College Student	2884*	58				43				33			
Remediated Academically Disadvantaged Student	253	75	1789	5.31**	1.96		1359	1.58	1.96		1044	1.58	1.96

86

* Excluding academically disadvantaged students.

** Difference significant at five percent point.

% =percent of group returning.

df=degrees of freedom.

t =t score.

Ct=Critical t value.

there were no significant difference for the third and fourth year between the retention rates of the two groups of students.

The discussion of the next four null hypotheses centers around retention in college for the academically disadvantaged student.

Null Hypothesis 13: There was no significant difference between the percentage of retention into the second year of college of academically disadvantaged students who received remedial treatment (Group I and Group II) and that of academically disadvantaged students who received no remedial English treatment (Group I).

A t score of 2.21 (Table 18) was obtained for the difference between retention rates of remediated and non-remediated academically disadvantaged students. The critical t value was 1.97 for a two-tailed test at the five percent point with 313 degrees of freedom. Hence, the Null hypothesis of no significant difference between the percentage of retention into the second year of college of academically disadvantaged students who received remedial treatment and those who received no remedial English treatment was rejected.

TABLE 18

COMPARISON BETWEEN RETENTION IN THE SECOND YEAR OF
COLLEGE FOR REMEDIATED AND NONREMEDIATED
ACADEMICALLY DISADVANTAGED STUDENTS
AT WCC (1961-1971)

Group	Number	%	2nd Year		C_t
			df	t	
Remediated I & II	253	77			
			313	2.21*	1.97
Nonremediated III	62	63			

* Difference significant at five percent point.

% =Percent of group who returned to WCC.

df=Degrees of freedom.

t =t score.

C_t =Critical t value.

Null Hypothesis 14: There was no significant difference between the percentage of retention in college of Group I and Group II.

From Table 19 it was seen that the t score of 2.93 was larger than the critical t value of 1.98 for a two-tailed test at the five percent point with 194 degrees of freedom. All other t scores were below the critical t value. Therefore, the null hypothesis of no significant

TABLE 19

COMPARISON BETWEEN PERCENTAGE OF RETENTION OF REMEDIATED GROUP I AND REMEDIATED GROUP II OF THE ACADEMICALLY DISADVANTAGED STUDENT AT WCC 1961-72

Group	Number	%	df	2nd t	Ct	%	df	3rd t	Ct	%	df	4th t	Ct
Remediated Group I	120	67				43				33			
			194	2.93*	1.98		114	.82	1.98		87	.67	1.99
Remediated Group II	133	87				48				37			

* Difference at five percent point.

% =Percent of group who returned to WCC.

df=Degrees of freedom.

t =t score

Ct=Critical t value

difference between the percentage of retention in college of remediated Group I and remediated Group II of academically disadvantaged students was rejected for the second year, but could not be rejected for the third and fourth year of retention in college.

Null Hypothesis 15: There was no significant difference between the percentage of retention into the second year of college of Group I and that of Group III

A t score of .54 was obtained (Table 20) between the percentage of retention into the second year of college for the two groups. The critical t value with 117 degrees of freedom for a two-tailed test at the five percent point was 1.98. Hence, the null hypothesis of no significant difference between the percentage of retention into the second year of college of Group I and that of Group III cannot be rejected. It appears that remedial English taught concurrently with English 1 was not beneficial in assisting in the retention of the academically disadvantaged student in college.

TABLE 20

COMPARISON BETWEEN PERCENTAGE OF RETENTION INTO THE SECOND
YEAR OF COLLEGE FOR REMEDIATED GROUP I AND NONREMEDIED
GROUP III AT WCC (1961-1971)

Group	Number	%	2nd Year df	t	C _t
Remediated I	120	67			
			117	.54	1.98
Nonremediated III	62	63			

% =Percent of group who return
df=Degrees of freedom
t =t Score
C_t=Critical t value

Null Hypothesis 16: There was no significant difference between the percentage of retention into the second year of college of Group II and that of Group III.

From Table 21 it was seen that the t score of 3.08 was larger than the critical t value of 1.98 for a two-tailed test at the five percent point with 153 degrees of freedom. Therefore, the null hypothesis of no significant difference between the percentage of retention into the

second year of college of Group II and that of Group III was rejected. The remediated academically disadvantaged student of the type in which remedial English is taken prior to enrollment in English 1 has a higher retention rate than the nonremediated group.

TABLE 21

COMPARISON BETWEEN PERCENTAGE OF RETENTION INTO THE SECOND YEAR OF COLLEGE FOR REMEDIATED GROUP II AND NONREMEDIED GROUP III AT WCC (1961-1971)

Group	Number	%	2nd Year df	t	C _t
Remediated II	133	87			
			153	3.08*	1.98
Nonremediated III	62	63			

* Difference significant at five percent point.

% =Percent of group returned to WCC.

df=Degrees of freedom.

t =t Score.

C_t=Critical t value.

It seems that the teaching of Basic Grammar prior to enrollment in English 1 holds the academically disadvantaged student at WCC one year longer than either the other remedial or nonremedial programs. Also longer than regular college students. However, it appears that its holding power was not lasting because at the third and fourth year there was no significant difference between the regular college students and the students who were subjected to either of the two methods of remedial treatment.

The investigator feels that there were possible explanations why the second group of academically disadvantaged student's percentage of retention was higher for the second year. First, the academically disadvantaged student was usually accepted on academic probation, and in many instances it takes two semesters or more for them to be removed from probationary status. After completion of one year a student may be continued on probation provided there was change as evidenced by improvement in a higher cumulative GPA of the second semester over the first. Second, after two full years or four semesters, a probationary student knows whether his academic standing was such

that he could: 1) transfer if he so desired; 2) remain at WCC or 3) be academically dismissed because he had accumulated so many semester hours that he would have a difficult time earning enough quality points to remove himself from academic probation.

Null hypotheses seventeen, eighteen, nineteen, and twenty refer to the first semester composite GPA of the academically disadvantaged student.

Null Hypothesis 17: There was no first semester significant difference between the cumulative GPA according to two, three or four years retention in college among various groups of academically disadvantaged students.

By observing Table 22 it was discerned that no t score was higher than the critical t value for a two-tailed test at the five percent point. Therefore, the null hypothesis of no significant difference between the cumulative GPA according to two, three, or four years retention in college of Group I and II, Group I and III, and Group II and III cannot be rejected.

The first semester cumulative GPA for the academically disadvantaged students did not afford a basis for predicting differences among the remediated or nonremediated

TABLE 22

COMPARISON BETWEEN FIRST SEMESTER CUMULATIVE GPA OF ACADEMICALLY DISADVANTAGED STUDENTS IN TERMS OF LENGTH OF ENROLLMENT AT WCC 1961-1971

Group	GPA	1st Year df	t	Ct	GPA	2nd Year df	t	Ct	GPA	3rd Year df	t	Ct	GPA	4th Year df	t	Ct
Remediated Group I	1.56	251	.44	1.97	1.91	194	.58	1.97	1.96	114	.83	1.98	2.33	87	.70	1.99
Remediated Group II	1.66				1.99				2.08				2.29			
Remediated Group I	1.56	180	1.42	1.97	1.91	117	.21	1.98								
Nonremediated Group III	1.73				2.00											
Remediated Group II	1.66	193	.30	1.97	1.99	153	.00	1.98								
Nonremediation Group III	1.73				2.00											

df=Degrees of freedom

t = t Score

Ct=Critical t value

academically disadvantaged students in terms of length of stay at WCC.

Null Hypothesis 18: There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I and II.

Null Hypothesis 19: There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I.

Null Hypothesis 20: There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group II.

The students who had higher cumulative GPA's at the end of their first semester in college appeared to remain in college longer than those with lower GPA's (Table 20). An r value of .34 was obtained for all remediated students, an r value of .31 was obtained for remediated students of Group I and an r value of .37 was obtained for remediated students of Group II. This implied that there was a positive but very weak relationship between first semester cumulative GPA and length of stay in college. A further implication was that students with high GPA's drop out

about as frequently as those with low GPA's. Similarly those with low GPA's continue in college for four years in almost as many cases as do those with high GPA's. It would seem to indicate that prediction for dropouts would be better on the lower end of the grade scale but not on the higher side.

Summary

Most remedial programs attempt, either explicitly or implicitly, through improved skills in reading or writing, to provide the student with a better chance to do well in college. However, on the basis of the data expressed in Chapter IV, it appears that that assumption is not justified for the remedial English program at Western Christian College. The implication is that WCC has not achieved its goal of remediation of the academically disadvantaged student.

In Chapter V a summary, conclusions, recommendations, and implications for further study are discussed.

CHAPTER V.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This chapter summarizes the findings of this study, presents conclusions from these findings and gives recommendations based on these conclusions.

In general, this research was undertaken to assess the remedial English program in terms of later performance in English 1, subsequent academic achievement, and other selected factors of the academically disadvantaged young adult at WCC. The factors were: performance on placement tests, patterns of remediation, grades received in English 1, grades received in courses taken by most students at WCC, major fields of study in which students finally graduated, years students remained in college and composite first semester grade point average.

Three populations were selected to study these factors. The first consisted of 315 academically disadvantaged students. This population was further divided into three

groups. The groups were: Group I, academically disadvantaged students who took Basic Grammar concurrently with English 1 as freshmen; Group II, academically disadvantaged students who took Basic Grammar prior to enrolling in English 1 which they took as sophomores; and Group III, academically disadvantaged students who enrolled in English 1 without Basic Grammar. The second consisted of 823 first-time-in-college freshmen from the classes of 1961-71. These students were chosen randomly from the total of all freshmen, regular and academically disadvantaged. The third consisted of only regular college students (excluding the academically disadvantaged).

Five questions were posed and twenty hypotheses were tested in this study.

Questions

1. What percentage of entering freshmen each year, 1961-71 were designated as academically disadvantaged because they received a standard score of 15 or below on the English section of the ACT?

2. What was the correlation between English ACT standard score for entering freshmen each year from 1961-71 and grades earned in English 1?
3. Did regular college students receive higher grades in each of the six selected courses (American History, Survey of Civilization, Teachings of Jesus, Foundations of the Apostolic Movement, English Literature and Speech) than did the academically disadvantaged students?
4. Did academically disadvantaged students eventually graduate from WCC? If so, in what proportions? How long did it take for academically disadvantaged students to graduate?
5. In what disciplines did the academically disadvantaged students earn degrees?

Null Hypotheses

1. There was no significant difference in the mean English 1 GPA between the academically disadvantaged students who received remedial English

treatment (Group I and Group II) and academically disadvantaged students who received no remedial English treatment (Group III).

2. There was no significant difference in the mean English 1 GPA between Group I and Group II.
3. There was no significant difference in the mean English 1 GPA between Group I and Group III.
4. There was no significant difference in the mean English I GPA between Group II and Group III.
5. There was no significant difference between the GPA earned by academically disadvantaged students who received remedial English treatment (Group I and Group II) and those earned by academically disadvantaged students who received no remedial English treatment (Group III), in each of six selected courses.
6. There was no significant difference in mean GPA between Group I and Group II in each of the selected courses.

7. There was no significant difference in mean GPA between Group I and Group III in each of the selected courses.
8. There was no significant difference in mean GPA between Group II and Group III in each of the selected courses.
9. There was no significant difference between the percentage of degrees received by academically disadvantaged students and by regular college students in identical fields of study at WCC.
10. There was no significant difference between the GPA and the percentages of degrees received by identical fields of study for Group I and Group II.
11. There are no significant differences between the cumulative GPA in identical fields of study of Group I and Group II.
12. There was no significant difference between the percentage of retention in college of remediated academically disadvantaged students and that of regular college students.

13. There was no significant difference between the percentage of retention into the second year of college of academically disadvantaged students who received remedial treatment (Group I and Group II) and that of academically disadvantaged students who received no remedial English treatment (Group III).
14. There was no significant difference between the percentage of retention in College of Group I and Group II.
15. There was no significant difference between the percentage of retention into the second year of college of Group I and Group III
16. There was no significant difference between the percentage of retention into the second year of college of Group II and Group III.
17. There was no significant difference between the first semester cumulative GPA according to two, three or four years retention in college among various groups of academically disadvantaged students.

18. There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I and Group II.
19. There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group I.
20. There was no correlation between the first semester cumulative GPA and length of stay in college for academically disadvantaged students of Group II.

The results of testing these null hypotheses are found in the next section under Conclusions.

Conclusions

The principal conclusions from the study were:

1. Neither of the two patterns of Basic Grammar produces significant improvement in English 1 as measured by GPA.

2. Neither of the two patterns of Basic Grammar improves the academically disadvantaged students' academic performance in any of the six selected subject areas of later study as measured by GPA.
3. Academically disadvantaged students who completed Basic Grammar prior to entering English 1 continued in college for the second year in larger proportions than did any of the other groups (regular or academically disadvantaged). Thereafter there was no significant difference in retention rate between those who received remedial English treatment and regular college students, between either of the remedial groups, or between those academically disadvantaged students who did not have remedial English and those who did.
4. The cumulative GPA of the regular college students were higher upon graduation than that of the academically disadvantaged students.
5. The academically disadvantaged students comprised 13.5% of the total freshman population during the eleven-year study.

6. The academically disadvantaged students did choose different courses of study than the regular college students. Seven disciplines were excluded from their choices of fields of study. No academically disadvantaged students chose the fields of English, Spanish, German, Art, Chemistry, Physics, and Behavioral Science. A significantly greater proportion of academically disadvantaged students than of regular college students, graduated in Industrial Education, and they seemed to earn a moderately higher GPA than did the regular college student. In twelve of the disciplines there were no significant differences in percentage of degrees granted between the academically disadvantaged students and regular college students, nor were there significant differences in GPA.
7. Low composite GPA at the end of the first grading period at WCC of the academically disadvantaged students were predictive of dropouts.

Recommendations

On the basis of the findings and conclusions, it was recommended:

1. That the moratorium placed on the requirement that academically disadvantaged students enroll in the patterns of Basic Grammar previously employed be continued.
2. That administrators of the Office of Admissions and Records at WCC develop more precise means for identification of academically disadvantaged students.
3. That administrators of the Office of Admissions and Records establish procedures for collecting and storing information concerning attrition to provide data for future research of the "dropout" problem.
4. The Counseling Center should encourage and coordinate special programs for academically disadvantaged students. These special programs should be of the type of individual consultation and remediation as opposed to formal courses. The Admissions Office

should notify the Center when an academically disadvantaged student has enrolled at WCC. Upon receiving this information the Center should establish a working relationship with the student, diagnose the problem and start proceedings for the particular assistance needed, such as academic, social, or financial guidance. The Counseling Center should not be a "Remedial Center" but a clearing house to see that the academically disadvantaged student is aware of the assistance available in a college community and that they are referred to and engaged by those services.

5. That the policy of open admissions as utilized for the constituency that WCC serves should be extended to any student who because of suspected academic deficiency might otherwise be refused admittance.

Suggestions For Further Study

The following suggestions are made for further study:

1. Research should be done with emphasis on remediation through counseling, after such models as Upward Bound and tutorial programs that have been developed to assist students in minority groups.
2. Studies should be conducted to ascertain the adaptability of such counseling programs for the academically disadvantaged student at WCC.
3. Research designed to determine factors, of motivation, self-concepts, financial problems, early marriage, social problems and others which interfere with academic performance should be conducted.
4. A study should be done to ascertain the reasons why the academically disadvantaged students drop out of WCC during the third year.
5. A study should be done to ascertain the reasons why the regular college students who are rated as above average students drop out of college at the same rate as academically disadvantaged students.

Concluding Statement

This study was implemented during the spring of 1972 and completed in June of 1973. The purpose was to assess remedial English programs for academically disadvantaged young adults at Western Christian College.

While investigating the selected factors that were included in the study, the absence of significant differences in all areas except retention in college warrants the conclusion that the remedial English program as previously administered at WCC was ineffective in raising the academic achievement of the academically disadvantaged student.

The significant difference in proportions in retention in college disappears at the third year; there was no significant difference during the third and fourth year at WCC between remedial English students and all other college students studied.

In conclusion, the efforts to meet the academically disadvantaged students' needs through formal remedial English programs at WCC was less than successful. More research is needed if we are to identify the factors that seem to help some academically disadvantaged students to

succeed when evidence suggests that they should not.

Finally, remediation alone cannot get the job done. It may be that remediation through counseling is a too narrow approach. A broader approach designed to change attitudes and values, improve learning skills, and raise self concept may be needed. But, the locking of academically disadvantaged students into a remedial education program presents a barrier, identifies them as inferior students and encourages dependence upon a program to get them through college. Individual consultation and remediation as opposed to a formal course would assist the academically disadvantaged student to be more independent in making his own choices in higher education--choices that he ultimately must make for himself.

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APPENDICES

APPENDIX A
DATA GATHERING FORM

Name _____

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11. Grade--Literature

English	0	1	2	3	4
American	0	1	2	3	4

12. Grade--Communications

Introduction to					
Public Speaking	0	1	2	3	4
Voice and Diction	0	1	2	3	4
Oral Interpretation	0	1	2	3	4

13. Student remained 0 1 2 3 4 5 6 7 sequential years at WCC.

14. Did the student transfer credits to other institutions?

Yes (1) No (2)

15. Did the student graduate? Yes (1) No (2)

16. Field of study _____

17. GPA at time of graduation: _____

APPENDIX B
CONVERSION CHART

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APPENDIX B

TABLE 23

CONVERSION CHART ACT, SAT, SCAT, COOP English Comparative Scores

ACT C	%ile Rank	SAT Total*	(Big 10)	COOP Rdg.	%ile Rank	COOP EE	%ile Rank	SCAT Total
30	99	1366-1406	(1376)	79	99	84	99	99
29	97	1316-1356	(1323)	77	99	80	99	97
28	95	1266-1306	(1260)	75	97	77	97	95
27	91	1216-1256	(1214)	73	94	75	95	92
26	87	1166-1206	(1138)	71	90	73	91	89
25	82	1116-1156	(1125)	69	84	70	85	85
24	75	1066-1106	(1084)	67	76	68	77	81
23	68	1016-1056	(1043)	65	67	66	72	77
22	61	966-1006	(998)	63	56	63	59	74
21	53	916-956	(962)	62	50	61	48	70
20	46	866-906	(921)	60	39	59	38	66
19	38	816-856	(878)	58	28	57	31	62
18	31	766-806	(847)	57	23	55	24	59
17	25	716-756	(803)	55	15	52	15	56
16	19	666-706	(760)	53	10	49	6	52
15	15	616-656	(739)	51	7	47	6	49
14	11	566-606	(717)	49	4	45	4	45
13	8	516-556	(683)	46	2	42	2	41
12	5	466-506	(674)	44	1	39	1	38
11	4	416-456	(660)	43	1	38	1	35

*California State College Admissions Study, 1965

APPENDIX C

INDIVIDUAL DATA FOR GROUP TREATMENT

TABLE 24

INDIVIDUAL DATA FOR GROUP I TREATMENT

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
1	15	C	1.85	D						1		
2	15	C	2.36	B						1		
3	14	C	1.94	D						3	Off. Admin. (AS)	1.83
4	15	C	1.32	C						1		
5	15	C	2.00	C	C	C	C	C		5	Bus. Accounting	2.44
6	15	B	2.79	B	B	B	A			4	Bus. Accounting	2.79
7	15	B	2.36	B	B	B	B			5	Comm. Service	2.67
8	15	D	1.78	B	C					5		
9	15	D	1.97	C						2		
10	12	C	2.02	C				C		1		
11	15	C	2.46	C	C	C	C			5	Theol-Religion	2.07
12	10	D	1.91	D	C	C	D			5	Indust-Education	2.50
13	13	F	0.30	F				F		1		
14	12	D	1.18	D				D		2		
15	08	F	1.84	D				D		2		
16	10	F	0.99	D				D		1		
17	11	F	0.88	D				D		3		
18	11	D	1.38							1		

* Grading system used at SMC: 0=F, 1=D, 2=C, 3=B and 4=A.

** Classes are: 1=Survey of Civilization, 2=American History, 3=Teaching of Jesus, 4=Foundations of Advent Movement, 5=English Literature and 6=Speech.

*** The letters AS following a major field signifies an Associate Science Degree and the absence of letters denotes a Baccalaureate Degree.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
19	13	C	1.34	D	D	C	C	C	C	5	Comm. Service	2.08
20	14	C	1.67	F	C	D				4		
21	13	D	1.83	C	D	B	A	F	D	6	Theol-Religion	2.03
22	07	D	1.98	D	B	C			D	6	Theol-Religion	2.07
23	14	D	1.35		F					1		
24	12	D	2.06		C					2		
25	13	C	2.22	C	C					5	Elem. Education	2.50
26	13	C	1.38	C	C	D	C			4	Comm. Service	2.02
27	12	D	2.10	C						1		
28	14	B	1.96	D		C				3		
29	12	B	1.22		C					2		
30	14	D	1.00		D					1		
31	11	F	1.45	F	F					1		
32	09	F	1.00	D	D			F		2		
33	11	B	2.23	B	B	C	C			5	Mathematics	3.10
38	14	C	1.88		C					2		
39	15	C	1.90	D	C	C	D	B		6	Phys. Educ.	2.29
40	15	B	2.17	C	C	C				3		
41	15	D	1.74	D	B	B	D	D		5	Theol-Religion	2.14
42	13	C	2.06	C	B	C		D		4	History	2.38
43	15	C	2.49	C	C					1		
44	14	C	1.78	C	D	C				2		
45	10	B	2.76	C	C	C		C		4	Industrial Educ.	3.20
46	13	C	1.60	D	B					3		
47	11	C	1.96		C	B				2		
48	12	F	1.09		C	C				3		
50	13	D	1.48	D	C	C	C	C		5	Phys. Educ.	2.29
51	14	C	1.92							1		
52	12	C	2.00	B	C			C		4	Comm. Service	2.16

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
53	12	D	2.01			C			D	2		
54	11	D	1.41			D				2		
55	12	D	2.07			B	C	C	D	6	Music	2.43
62	15	C	2.33			C	C	B	B	6	Religion	2.42
63	14	C	2.04						B	1		
64	13	F	0.93			C			C	1		
65	15	C	2.12			F	C	C		3		
66	12	C	0.90			D				1		
67	15	D	1.96			B	B	D	C	4	History	2.11
68	10	D	1.62			F	D			2		
69	09	C	2.19			C				2		
70	10	B	2.70			A	B	B	C	4	Bus. Accounting	2.67
71	13	F	1.03			F	C			1		
72	15	C	2.12			D	D	B	C	5	Elem. Education	2.39
73	14	F	0.74			C				1		
74	13	B	2.13			B	B	A	C	4	Nursing (BS)	2.31
75	10	C	1.90			C	C	D		4	Off. Admin. (AS)	2.02
76	09	F	0.34			F				1		
91	13	D	1.53			C			C	1		
93	12	F	0.65			F	C		F	1		
94	13	D	1.06			F	D			1		
95	15	C	2.17			D	C		C	4	Theol-Religion	2.05
96	15	C	1.94			C				1		
97	13	C	2.00							1		
98	09	D	1.38			C				1		
99	11	B	2.89			B	B	A	A	4	Elem. Education	3.27
100	11	D	0.82			D				1		
101	14	C	1.94			C	C	B	C	3		
103	15	C	1.65			D				1		

*See legend at beginning of chart.

Subject	1st ACT Standard Score	Six English I Grade*	Enrolled		Selected Classes** 1 2 3 4 5 6	at SMC (years)	Degree***	Cumulative GPA at Graduation*
			Semester Cumulative GPA*	English I Grade*				
104	12	D	1.79		C	1		
106	09	C	1.58		C	1		
108	12	D	2.06		D	1		
109	13	F	0.76		C	1		
110	11	F	1.95		B B C	2		
112	13	C	2.18		D D C C C	3		
113	15	B	2.61		C C	2		
114	11	C	2.41		B A	2		
115	15	F	0.83		C D	2		
116	14	D	2.28		C C B B	3		
117	05	C	1.82		D C C B	5	Theol-Religion	2.11
118	15	F	1.56		D C D	2		
119	12	D	1.98		D C D C	5	Industrial Educ.	2.33
120	14	F	1.51		F C	1		
121	13	C	2.31		D C C	2		
122	14	C	1.57		D D	2		
123	11	F	1.05		D D	1		
125	14	B	3.33		B A A B	4	Comm. Service	3.69
126	09	B	2.63		A B B C B	4	Elem. Education	3.02
127	15	C	2.33		C B C	5	Nursing BS	2.35
128	14	D	1.25		F C C D	1		
129	15	C	2.64		C B B B	6	History	2.63
130	14	B	2.48		C A C	2		
131	14	C	2.11		D C	1		
132	11	C	1.58		D	1		
136	15	B	2.16		A C A A	5	Biology	2.86
137	12	F	0.12			1		
138	15	C	2.39		C C B C	2		
139	14	C	1.83		D C C	2		

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
142	13	C	2.30	C	C	C	D	D	C	5	Phys. Educ.	2.11
143	15	B	2.63		C					2		
144	10	C	2.18	C	B	B			C	5	Theol-Religion	2.78
146	13	C	2.69		B	B	A			4	Bus-Accounting	3.26
147	12	B	2.38		C	C	D		C	3		
148	15	D	2.05			D	C	D	C	2		
149	12	B	2.35	C		C				2		
151	14	D	0.76		D	D				1		
152	14	D	1.36	D	C	C	C			1		
153	14	C	2.19	C		D		D		2		
154	14	C	1.58	C		D				1		
155	14	C	2.10	D	D		C	D	C	2		
156	14	C	1.94		C	C	B	C	C	3		
157	15	D	1.50		F	D				6	Music	2.36

* See legend at beginning of chart.

TABLE 25

INDIVIDUAL DATA FOR GROUP II TREATMENT

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
160	12	C	2.25	C	C					1	History	2.73
161	13	C	2.36	B	B	C	D	C	B	4		
168	09	C	1.74		C	C	C			2		
169	12	C	1.85		D	B	D			3	Nursing (AS)	2.14
170	12	C	1.98	B	D	C	C			3		
172	13	C	2.08	C	C	C	C			5	Indust-Education	2.59
176	14	C	2.77	B	B	B	B			2		
181	11	D	1.56		D					1		
182	14	C	1.83	D	C	C				2		
184	13	C	2.04	C	C	C	C	C		4	Indust-Education	2.86
185	15	C	2.30	C	B	A	C	C		4	Theol-Religion	2.09
187	14	C	2.78	B	B	A	C	C	C	4	Theol-Religion	2.75
191	10	C	2.30	D	C	C	D	C		4		
192	15	C	2.22	C	C					5	Bus-Accounting	2.14
195	12	D	1.96		B					2		
196	13	F	1.50	D	C	D	C			4	Bus-Accounting	2.07

* Grading system used at SMC: 0=F, 1=D, 2=C, 3=B and 4=A.

** Classes are: 1=Survey of Civilization, 2=American History, 3=Teaching of Jesus, 4=Foundations of Advent Movement, 5=English Literature and 6=Speech.

*** The letters AS following a major field signifies an Associate Science Degree and the absence of letters denotes a Baccalaureate Degree.

Subject	English ACT Standard Score	English Grade*	1st Semester Cumulative GPA*	Six Selected Classes** 1 2 3 4 5 6	Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
197	15	B	3.04	B B B B B	4	Theol-Religion	2.62
198	15	C	2.83	D C C C	5	Elem. Education	2.69
199	15	C	2.03	C B C A A	4	Bus-Accounting	2.58
200	12	C	2.33	C C C C C	4	Elem. Education	2.53
202	10	D	1.44	D D D C C	1		
204	13	C	2.03	C C C B	2		
205	12	C	2.17	C B C C	2		
206	14	B	3.23	A C B C C	4	Mathematics	3.05
207	13	C	2.23	C C C C	4	Music	2.34
209	13	C	2.13	D C	2		
213	10	C	2.70	C C A D C	4	Theol-Religion	2.53
215	08	C	3.20	C B C	4	Nursing (BS)	2.56
219	10	C	2.00	B B C D	2		
221	13	B	2.43	C C C B	2		
223	13	C	1.52	D C C C	5	Nursing (BS)	2.34
225	13	C	2.07	B C C D	2		
228	12	C	1.71	C C C C	1		
229	11	D	2.00	C C C C C	4		
230	15	C	2.07	D D C B	2		
231	09	B	2.70	C B C C	5	Nursing (BS)	2.53
232	12	C	2.63	B B	2		
234	15	C	1.52	C D	2		
235	15	C	2.30	B B B C	4	Nursing (BS)	2.61
236	13	C	2.52	D C B F	4		
237	14	C	2.15	B C A C	4	Biology	2.98
238	13	C	2.87	B C	2		
239	12	D	1.43	D D D	1		
240	14	C	2.12	C B C C	4	Communications	2.53
241	09	C	2.05	C C B	1		

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
				C	D	D	C	C	C			
242	13	C	1.64	C	D	D	C			4	Communications	2.28
243	13	C	1.79	F	C	C	B			1		
244	12	C	0.42	C	C	C	D			2		
246	14	D	1.27	D	C					2		
247	15	C	2.23		C	C	C	C		4	Indust-Education	2.37
249	10	D	1.57		D	F	D	D		1		
251	10	C	1.46	D	C	D	C	B		5	Bus-Accounting	2.19
252	15	C	2.22	D	C	C	D	B		4		
253	15	C	1.64	D	C	C	D			5	Theol-Religion	2.08
254	13	D	1.53	D		C	D			2		
255	14	C	1.40		D	D		F		2		
256	10	C	1.28		D					1		
257	13	C	2.27	C	C	C				1		
258	14	C	2.76	C	B	B	B			4	Theol-Religion	2.52
259	14	C	2.62		B	B	B	C		4	Nursing (BS)	2.90
260	09	F	1.64	F	D	D	D			2		
261	12	C	2.39	C	C	B	C			4	Elem. Education	2.44
262	11	C	2.14		C	C				3	Off. Ad. (AS)	2.53
263	10	C	2.40		C	C	B	D	B	3	Nursing (AS)	2.46
264	14	C	2.55			B	A	B		3	Nursing (AS)	2.24
265	15	C	1.96	C	C	B				3	Nursing (AS)	2.20
266	14	C	2.68	D	C	C	D	C		4	Theol-Religion	2.27
278	15	C	1.61		C	D				1		
297	11	C	2.07	C	B	C	C	C		4	Theol-Religion	2.71
298	12	C	2.57		C	A	B	C	C	4	Elem. Education	2.69
299	09	C	1.75		D	C				2		
300	15	C	2.45	C	D	C	C	B		2		
301	15	C	1.93		C	B	C	C		2		
302	10	C	1.77		D	B	C	C		2		
303	15	C	1.90		C	B	C	B	C	4	Communications	2.28

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree**	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
304	07	D	1.62	C	D	B	D			2		
305	15	C	2.30	C	C	B	C	C		4	Elem. Education	2.47
306	14	C	1.96				C	D	C	2		
307	14	C	1.50	D	C	D	C	D	C	2		
308	15	D	1.53	D	D	D	D	C		2		
309	11	C	2.41	C	C	C	B			4		
310	12	C	2.07			C	C	C		2		
314	11	C	2.00	D	C	B	D	C		6	Nursing (BS)	2.07
317	14	C	1.83			C	C	C		1		
318	14	B	3.39	B	B	B	B			3		
342	14	B	2.25	C	B	B	B	B		4	Nursing (BS)	2.45
345	14	C	2.29			C	C	C		2		
355	13	C	2.14	C	C	B	C			2		
356	14	D	1.57	F	D	F	B	C		4		
360	14	C	1.33	D		D				1		
378	14	C	2.00	B	B	A				3		
311	14	C	2.11			C	C			2		
312	08	C	2.00	D	C	C		C		2		
313	12	D	2.33	D	D	B	B			3		
315	15	D	1.26	F						1		
316	10	C	2.91	B	B	C	C			4	Nursing (BS)	2.87
319	13	C	1.35	C	B	C	D	C		2		
321	14	C	1.87			C	C			2		
322	14	B	2.82			B	B			3	Off. Ad. (AS)	2.50
320	15	C	2.10			A	A			2	Nursing (AS)	2.70
323	14	C	2.10			C	B		C	2	Nursing (AS)	2.28
324	15	C	1.71	D	D	D				3	Nursing (AS)	2.23
325	15	C	2.67			C	B			2	Med. Rec. Tech (AS)	2.03
339	10	D	1.50			C	D	C	D	2	Nursing (AS)	2.03
340	12	C	1.93			C	C	C		2	Off. Ad. (AS)	2.13

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*	
				1	2	3	4	5	6				
341	13	C	2.58	C	B	D				2	Nursing (AS)	2.43	
343	15	C	2.86	B	C	C	B	B		5	Indust-Education	2.96	
344	15	B	3.05	B	C	B	C			4	Elem. Education	2.95	
346	13	D	1.56	B	B	C	D	D		3			
347	15	C	2.29	C		D				1			
349	11	B	2.80	B	A	B	B			2			
357	09	C	2.35	B	C	B	C	B		4			
358	12	C	1.80	C	C		C			2			
373	14	C	3.00	B	C	B				1			
374	13	D	2.00	D						1			
375	11	F	0.98	F	D	F				1			
376	11	D	1.40	C	C	C	B			2			
382	10	C	2.13	C	C	C	B			2			
385	14	C	1.60	C	C	C	B			2			
386	12	C	1.00	D	D	F				1			
388	14	C	1.50	D						1			
390	14	F	0.17							1			
391	11	C	1.00	C	D					3			
393	15	D	1.52	F	B	D	C			3			
397	12	C	1.50	D	D	C				4			
399	14	D	1.33	D	C	D				1			
401	14	C	1.73	C	C					2			
403	15	C	1.63	C	C	C	C	C		2			
405	15	C	1.75	D	C	B	C			2			
406	10	F	2.65	C	B					1			
407	15	C	1.44	D	D	D	B			4	Office Ad. (BS)	2.02	
408	12	C	2.08	D	C		B			4	Home Economics	2.40	
409	13	B	1.93	C	C	B	C	C		4	Communications	2.15	
410	13	B	2.79	B	B	A				1			

* See legend at beginning of chart.

TABLE 26
INDIVIDUAL DATA FOR GROUP III TREATMENT

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
411	12	F	0.75		C					1		
412	12	C	2.14		C					2		
413	15	C	1.83							1		
414	11	C	2.12		C	C	B	C		3		
415	10	C	1.54		D	F	C	C	C	3		
416	11	D	2.09		C	C				3	Nursing (AS)	2.12
417	15	D	1.25		C	D		D		2		
418	09	B	1.81		D	C	B	B	C	3		
419	10	C	1.75		C	C			C	3		
420	13	C	1.80		C				C	3	Nursing (AS)	2.27
421	10	D	0.57		F	D				1		
422	13	C	1.31		C	B	D			2		
423	09	D	1.86				D			2		
424	14	D	0.82		D	D	D			1		
425	14	C	2.25		D	C				2	Nursing (AS)	2.46
426	15	C	1.90		C	C	C		C	2		

* Grading system used at SMC: O=F, 1=D, 2=C, 3=B and 4=A.

** Classes are: 1=Survey of Civilization, 2=American History, 3=Teaching of Jesus, 4=Foundations of Advent Movement, 5=English Literature and 6=Speech.

*** The letters AS following a major field signifies an Associate Science Degree and the absence of letters denotes a Baccalaureate Degree.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
427	13	C	1.63	B						1		
428	15	B	3.40	A					A	1		
429	13	C	1.35		D	D			C	3		
430	15	C	1.82				C			1		
431	09	C	1.83	C	C	C			C	3		
432	12	C	2.00						D	1		
433	12	C	1.50				C			1		
434	13	D	1.14	D						1		
435	13	D	2.06	D			C			2		
436	13	C	2.00	D	C	C				2		
437	09	C	2.50	D	C	D				3	Office Ad. (AS)	2.00
438	13	C	1.17						C	1		
439	13	C	1.87	C	D				C	1		
440	14	C	1.33	D						1		
441	11	C	2.00							1		
442	14	C	1.86				C			1		
443	15	C	2.19	C	B	B				3		
444	15	B	3.00	B	B	B				3		
445	15	C	1.80	C			C			3		
446	13	C	1.40		D	C			C	2		
496	11	C	2.00	D	C	D				2		
497	15	C	2.00				C			2		
498	14	C	1.50				D	D		1		
499	14	B	2.33	C			C		C	2		
500	15	C	2.38	C	C	B	B			2		
501	13	C	1.33				D			2		
502	15	C	1.69				C	C	C	2		
503	12	B	1.50						F	1		
504	15	B	2.33							2		

* See legend at beginning of chart.

Subject	English ACT Standard Score	English I Grade*	1st Semester Cumulative GPA*	Six Selected Classes**						Enrolled at SMC (years)	Degree***	Cumulative GPA at Graduation*
				1	2	3	4	5	6			
505	14	C	2.00			C	D	C	D	1		
506	10	C	1.56			C				2		
507	11	C	2.50	B		B				2		
508	12	C	2.64			D				1		
509	13	C	1.31			D				2		
510	15	C	3.00			A				2	Nursing (AS)	3.07
511	15	B	3.13	B	B	B			B	1		
512	15	C	1.81			C			C	2	Nursing (AS)	2.14
513	12	C	1.88	D	C	C			D	2		
515	14	C	2.13	C	B	B			B	2		
516	15	C	2.14			C			C	1		
517	14	C	2.38			C			C	2		
518	15	B	3.21	B	B	C			B	2		
519	14	C	1.50	D	D					1		
520	11	B	2.00			C			C	2		
521	08	C	2.00	C						1		
522	13	C	2.00			C				2		

* See legend at beginning of chart.

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