


AN ABSTRACT OF THE THESIS

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Title: THE EFFECT OF A SUMMER PROGRAM OF ORIENTATION,  
EFFECTIVE STUDY, AND READING ON PERSISTENCE AND GRADE  
POINT AVERAGE OF FIRST YEAR JUNIOR COLLEGE STUDENTS

Abstract approved: 

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The purpose of this study was to evaluate the effects of a pilot summer program of orientation, study skills and reading on the persistence and grade point average of first year junior college students. The pilot program was offered as a voluntary summer program between graduation from high school in the spring and entrance into junior college in the fall.

For purposes of comparison, two control groups were established: a summer control group consisting of students who enrolled for the summer session but not in this program, and a fall control group who received no collegiate experience prior to college entrance the fall semester of 1966-67.

Four hypotheses were tested during and at the end of the year. These hypotheses stated in null form were:

1. There is no difference between the experimental group and either of the control groups in the proportion of

students who withdrew from college during the stated intervals.

2. There is no difference between the experimental and either of the control groups in the number of units dropped during the stated intervals.
3. There is no difference between the experimental and either of the control groups in the number of program changes made during the stated interval.
4. There is no difference between the experimental and the two control groups of the grade point averages at the stated intervals.

The chi-square test of homogeneity was used to test the first three hypotheses. The fourth hypothesis was subjected to an analysis of variance, single classification, technique.

Analysis of the resultant data revealed that hypotheses one, two, and four failed to be rejected at the established five percent level of confidence. Only hypothesis number three was rejected in the comparison of the experimental and the fall control groups. The same hypothesis failed to be rejected when the summer control was compared with the experimental group. This hypothesis failed to be rejected in the comparison made between the two control groups.

Four conclusions are suggested as a result of this study:

1. The summer program, as was constituted, is suspect as

a means which will be significant in retaining students in college during their first year.

2. It cannot be concluded that the summer experience had a significant effect on the numbers of withdrawals made by students from courses during the 1966-67 academic year.
3. The results suggest that the summer experience was of value in assisting students to establish a program of studies for the fall semester, but of no greater value than enrolling in other types of courses during the summer session.
4. The grade point averages of participants in the pilot program were not significantly affected by having received the summer experience.

#### Recommendations

1. The specific packaging of courses offered in the pilot program not be continued in its present form.
2. The nature of the total program be reviewed.
3. Similar studies be continued over several years to determine later effects of such programs.
4. Larger samples be used in study of redefined program.

The Effect of a Summer Program of Orientation, Effective  
Study, and Reading on Persistence and Grade Point  
Average of First Year Junior College Students

by

Kenneth Neil Griffin

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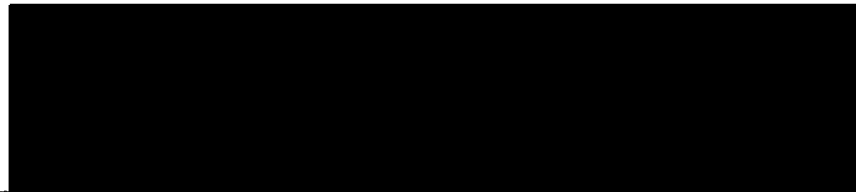
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INTRODUCTION

Need for the Study

Education beyond high school has become a necessity in the highly technological society in which we live. There is an ever increasing awareness that if the economy is to remain productive, additional and continuing education must not only be available to the vast majority, but also must be pursued by all who have the ability to continue.

Yet large numbers of students begin but do not remain in college. The attrition rates in institutions of higher education have become a national concern. Numerous studies have been made in colleges and universities in an attempt to determine causes which hopefully may lead to measures which will reduce the percentage of dropouts and allow a greater portion of entering students to continue their education and receive degrees.

Dr. Benjamin Bloom, Professor of Education at the University of Chicago, indicated the magnitude of the problem of students dropping out of college in the nation as a whole. He stated that 50 percent of the approximately one million students who began in an

institution of higher education in 1962 would not complete a degree in the institution in which they first enrolled. Of this group he indicated that 300,000 would fail and that 200,000 would leave for other reasons (18).

Dr. Bloom's indications are further substantiated by a study made by the United States Office of Education. In its survey of 13,700 students who began their college careers in 1950, it is reported that 25 percent had dropped out of school by the end of the first year of college (26, p. 16).

The segment of higher education, however, which has reason for greatest concern regarding attrition rates is the junior college. In a number of states the open door policy allows all high school graduates and anyone over 18 years of age, who is able to profit from additional education, to attend. In many junior colleges the open door has become the revolving door, because while students are allowed to register under this policy, a large portion of them leave very early in their college career for reasons other than lack of academic potential. Exit interviews and ability test scores have provided information which indicates that a relatively large number of these students have the innate ability to successfully continue some type of junior college program to its conclusion, but that for a variety of reasons they are unable to or choose not to do so.

An indication that the open door policy has an effect on the

attrition rate in junior colleges is reflected in data from recent issues of the national Junior College Directory. This publication indicates that a large percentage of students who enrolled as freshmen did not return as sophomores the following year. The directory shows that there were 239,199 full-time freshmen in the fall of 1961 in public junior colleges in the United States. In the fall of 1962, 51.5 percent of this group had failed to enroll as sophomores as evidenced by the sophomore enrollment of 122,534 (1). Similar figures were indicated in 1962 and 1963 when 259,033 full-time freshmen enrolled in public junior colleges and only 131,144 or 50.6 percent were sophomores in junior colleges the following fall (2). While these data do not reflect the number of students who may have transferred to other institutions, they do reflect a basis for concern. No datum is available on the number of non-returning sophomores who transferred to another institution after the freshman year at a junior college.

Information from an internal report made by Orange Coast Junior College in southern California tends to substantiate an assumption that a large portion of the non-returning students were dropouts. In an analysis of several years' records, officials at the college reported that 75 percent of the total number of dropouts in their college consisted of first and second semester students, and that one-third of the dropouts occurred during the first ten weeks of the fall semester (15, p. 128).

Further indication that a large number of non-returning sophomores may be dropouts is contained in a study of 217 students who entered Diablo Valley Junior College at Concord, California, in the fall of 1956. Almost one-quarter of the group did not re-enroll for the second semester; 42 percent did not enroll or had been dismissed from the college because of lack of academic achievement at the beginning of the following year. At the beginning of the fourth semester 43.8 percent of the 217 students continued in good standing. The attrition rate by the beginning of the fourth semester was 46.5 percent of the total group; and an additional 9.7 percent of the group were still continuing in college on probation (35, p. 21).

The dropout problem is not confined, however, to those students who make a complete break from a collegiate life by dropping from college entirely. A large number of students effect changes in their programs of original registration by changing, adding, or dropping courses. It is recognized by college administrations that these changes may only be reflecting poor mechanics of registration and the student's effort to secure the courses he wishes. Still, the number of changes made during a term is often alarmingly high.

That there is a large attrition rate from courses and that there are great numbers of changes of programs are substantiated by a study of class dropouts over a six-year period at Flint Junior College in Michigan. The study showed that from 5 to 25 percent of the

students enrolled in courses in a given subject area during a particular semester dropped one or more courses. The study included a total of 98,664 course enrollments. A total of 8,042 courses or eight percent of the total were dropped during the 12 semesters studied (42, p. 37).

A Foothill Junior College report at the end of the fall semester of 1965-66 also reflects the large number of changes in program made by students each semester. The total enrollment at the beginning of the semester was 6,871 students. During the semester 8,332 program changes were made.

Although many junior colleges indicate a concern regarding students who completely withdraw from college, or who complete only a part of the units in which they were initially enrolled, or who change their programs by dropping and adding courses, there are relatively few investigations which seek to find the real causes.

Students, when solicited concerning why they drop out of courses or drop out of college, list a multitude of different reasons. High in frequency of responses are answers to questions which center around the students' transition from high school to college. Several studies based primarily on investigations of four-year institutions point to the importance of this transition. Several of these studies are included in this paper because they tend to substantiate the rationale of this study.

Kenneth Heaton points out that many students who dropped out of college found it impossible to make the transition from high school to college because they did not possess the necessary skills and study habits to establish study schedules, take notes, and organize work (23, p. 242).

The study by the United State Office of Education previously cited, which queried 13, 700 student dropouts from a number of junior colleges and four-year institutions in 1950, points to several reasons why students dropped from college. In response to a questionnaire sent to the students who had withdrawn, the services received by the students which rated lowest in degree or level of satisfaction included: assistance from counselors and teachers on "how-to-study" techniques, and the services of advisors in helping select first-term courses. Students were almost unanimous, regardless of their ability level or the type of institution in which they were enrolled, in expressing a low opinion of the performance of the counseling, guidance, and orientation functions in higher education (26, p. 102-3).

Information from a study of dropouts at the University of Arkansas tends to support the previous study and enlarges on the areas of student need. The implications drawn from this study are that there is a need for more adequate orientation, better preadmission counseling, and more thorough academic advising (22, p. 212).

In another study T. Irwin indicates that at the top of the

reasons given by students for failure in collegiate work during their first year in college was the feeling that they had not been sufficiently prepared in high school in the study skills required for college. He continues, however, by indicating that half of the men who leave Harvard University do so because of emotional disturbances and that similar reasons are given for a percentage of the withdrawals by college officials at Columbia and Yale Universities. Irwin suggests that stated student reasons for leaving college are more symptomatic than they are real (27).

A study completed by Harriet Rose at the University of Kentucky substantiates the thesis that the real reasons students withdraw from college are not their stated reasons. She pointed up the importance of high anxiety, intolerance for conformity and social introversion as factors which differentiate between defaulters and persisters in college (41).

From his experiences at Foothill College, the writer would suspect that if the large numbers of dropouts from previous years were asked to react to questions similar to those presented in the previously discussed studies, a like pattern of responses would have been received. The occasion which led to this judgment was a meeting held to discuss an internal report made by the registrar, which indicated that of the 2,942 students who enrolled as first-time freshmen in the fall semester of the years 1958 through 1961 inclusively,



an average of 17.8 percent voluntarily withdrew before the end of the first or second semester for not maintaining academic standing at or above the average established by the faculty and administration as the minimum required for continuance (17).

The discussion mentioned ultimately led to the establishment of a pilot summer program. This program coupled with subsequent research established the rationale for this study.

### Rationale of the Study

The experiences of 15 years of teaching and administration at the junior-college level have convinced the writer that orientation to college and the improvement of reading and study skills have contributed to the academic success of many junior college students. These convictions culminated in several questions. If such programs were of benefit to students during the regular academic year when they were enrolled also in academic courses, would not summer programs prior to college entrance be even more effective? Would not students have greater success in academic courses the first semester because of a summer experience in these areas?

The question was posed to several members of the college staff. They opined that if students had been oriented to college and had improved their basic reading and study skills during the summer prior to enrolling in academic courses, their chances for college

success might be improved. As a result of these speculations several months prior to the beginning of the 1966 summer session, the writer and a small group from the counseling and teaching staffs met on a scheduled weekly basis to develop a program to be offered in the 1966 summer session. The group indicated areas of concern which they felt contributed to student attrition. These areas centered around the problems of: transition from high school to college, pre-college advisement and counseling, basic study skills, reading improvement, and college adjustment.

It was found that these areas were primarily covered in the content of several courses already listed in the catalog and regularly offered to students. The three courses were Psychology 50, Orientation to College; Psychology 53, Effective Study; and English 52, Analytical Reading (Appendix A). The group agreed that by carefully packaging these three courses and by providing four hours a week advising and counseling time to each instructor and counselor connected with the teaching of the courses, a pilot program which covered the areas of concern previously mentioned could be established. With these recommendations in mind a pilot program was developed and offered to graduating high school seniors of the class of 1966 as part of the summer session.

### Statement of the Problem

This study has as its purpose the comparison of an experimental group of students (those enrolled in the pilot summer program) to two control groups of students (a group enrolled in the summer session but not in the pilot program and a group who received no collegiate experience in the summer) in the following areas: persistence in college, persistence in courses, and academic achievement at the end of their first year of college.

To test these three areas four hypotheses were developed:

1. Participants in the pilot program would be less likely to drop out of college during the first year than would those who did not participate.
2. Participants in the pilot program would drop fewer units during the year than would those who did not participate.
3. Participants in the pilot program would make fewer changes in program than would those who did not participate.
4. Participants in the pilot program would have acquired a higher grade-point average at the end of the year than would those who did not participate.

The assumptions upon which the hypotheses were based were that students who took advantage of the pilot summer program in the

three areas previously mentioned: (1) would be better oriented to the college facilities and personnel; (2) have a better understanding of their own abilities and aptitudes because of the summer counseling experience; (3) have developed more effective study and reading skills. Thus they would be generally better prepared to cope with the transition from high school to college than those students who did not choose or have the opportunity to participate.

#### Definition of Terms

The first three terms which are defined for this study are actual descriptions of the content of the three courses used in the pilot program. The last four terms defined are common in education but are subject to varying interpretations. For the purpose of this study the interpretations are those used at Foothill College.

**Introduction to College:** Group and individual counseling and instruction sessions in which counselors help counselees (a) gain an understanding of themselves, especially their aptitudes and interests; (b) explore and select an occupational area; (c) plan their educational program; and (d) become aware of their responsibilities and opportunities as college students.

**Effective Study:** Approaches to college learning, including diagnoses of difficulties, development of new skills, self insight, positive attitudes and critical thinking as they relate to effective study.

**Analytical Reading:** Group and individual instruction in techniques for improving reading rate and comprehension. Development of advanced assimilative reading skills and expansion of vocabulary, Practice in critical reading skills demanded by college courses.

**Persistence in college:** Continuing in college.

**Persistence in courses:** Continuing in courses of initial registration in college.

**Program change:** Official change of original schedule by adding and/or dropping courses in which enrolled.

**Grade point average:** The average obtained by dividing the total number of units attempted into the total grade points earned. An "A" is equal to four grade points per unit of credit; a "B" three grade points per unit; a "C", two; a "D", one; and an "F", zero.

### Summary

Attrition from institutions of higher education is a national concern. Because of the non-selective entrance requirements of most public junior colleges, the attrition rates in this segment of higher education are probably higher than in more selective institutions.

Attrition, however, is not limited to complete withdrawal from college. It should be extended to include withdrawal from courses and to the changing from one course to another during the term.

Major reasons given by students for withdrawal from college and from specific courses center around the problems created by their transition from high school to college, inadequate college advising and counseling, and the lack of study skills and techniques necessary for college success.

In an effort to ease the problems of transition from high school to college and to improve the skills necessary for success in college, a pilot program was designed and offered at Foothill College in the summer of 1966.

The purpose of this study is to determine the effects of this program on persistence and grade point average of first-year college students who enrolled in the program as measured against a control group of students not given the same advantage.

## REVIEW OF RELATED LITERATURE

The review of the literature for this study was directed to the three areas of orientation to college, study skills, and reading improvement. Each of these areas is reviewed separately because the literature failed to reveal any information which described the packaging of all three segments.

Included in this chapter are comments by educators in the field of junior college education, in student personnel services, and in remedial studies. These comments indicate the need for and the importance of programs or courses which orient students to college and improve the skills necessary for college success. In addition, a number of studies is included which indicates the results of experimentation.

### Orientation to College

Writers in the field of education have expressed their opinions concerning orientation of students who are making the transition from high school to college. The literature reviewed for this study indicates the purposes, content and current practices of orientation programs.

The purposes of a college orientation program have been established in the comments of writers in the field of guidance and

education. J. W. McDaniel has stated that an orientation program is one means of overcoming deficient knowledge students have of new processes, services, regulations and procedures at the collegiate level and is a method of getting them off to a good start (31, p. 26). James W. Thornton suggests that a period of time at the opening of each year should be devoted to the purpose of orientation of new students to the facilities of the campus such as the library, cafeteria, and other specialized areas and classrooms. He also suggests that students be encouraged to participate in the student life of the college and to make use of its services such as the testing office, the reading laboratory, and the health services (49, p. 257).

The content of the orientation program is alluded to in several recommendations from educators who have studied the area. James Starr's first recommendation for developing the guidance and counseling services is that an effort be made in each institution to find a method to make students aware of the services that are available to them within the college and the community (48, p. 145). Max Raines recommends that the orientation program prior to the beginning of classes should stress those aspects of the students' initial adjustments to the college program (37, p. 3). Tyrus Hillway indicates that orientation involves registration, proper selection of courses, familiarization with college rules and procedures, and making first acquaintances with college personnel and other students (24, p. 258).



Thornton states that orientation courses ordinarily include completion of several examinations useful in guidance, and the development of individual four-semester schedules of courses which will fulfill the students' junior college objectives of occupational preparation, graduation, general education and preparation for transfer (49, p. 257).

Studies by Marlen Yoder in the junior college and Esther Cronovet in four-year institutions indicate the variation and range of orientation programs being offered.

Yoder, in a survey of 86 junior colleges, found that those colleges offered these purposes as guidelines to a good orientation program: (1) to acquaint students with: the purposes of the college, rules and regulations, the campus, the administration and faculty, other students, subject offerings, services and enrollment procedures; (2) to administer tests; and (3) to allow interviews between students and counselors. He also indicates that continued orientation should be concerned with aiding the student in his personal adjustment and assisting him in his academic adjustment (51, p. 78).

In another section of his study, Yoder reported that 66 junior colleges have orientation programs ranging from 1 to 87 days at the beginning of the year and that the most common number of days is four. He also indicated that the majority of the colleges agree there should be continued aid to the student in personal and academic adjustment (51, p. 55).

Cronovet found, after tabulating replies to a questionnaire of 2,139 institutions of higher education, that of the 64 percent who responded, 92.4 percent have orientation programs and that there is a considerable amount of variation in the form the programs take. She indicated that 31.2 percent offer a program that lasts for one week before classes start, and 14.6 percent have orientation extending from one semester to a full year. Less than one percent now offer summer programs; 17.7 percent have orientation programs that cover less than one week and which include freshmen camp programs; 19.8 percent combine an approach of meetings before classes begin with regular meetings spread throughout the freshman year; and approximately one percent offer programs during the first week of classes for one or two days (12).

### Study Skills

That the need for effective study skills is important to college success is felt by students. These skills are also strongly advocated by educators knowledgeable in this area of student services. The comments and the studies which follow indicate that students with deficiencies in study skills are being admitted to college at all levels and that colleges are assuming the responsibility for administering programs which are successfully aiding students to improve their skills.

Iffert's study indicates that one of the prime reasons students give for their inability to meet academic requirements in college is the lack of proper study skills development (26, p. 102). Leland Medsker points out that students with deficiencies were admitted to more than 90 percent of the public junior colleges. He goes on to state that the problems of deficiencies are not limited to the two-year colleges because frequent discussion of the subject makes it apparent that four-year colleges and universities are also highly cognizant of the problems (34, p. 64). Williamson states that modern research in human development has provided a foundation for professional services to individuals whose scholastic development is not proceeding satisfactorily. He states that remedial clinics on reading, study habits, psychological therapy and speech are a part of the student personnel program at many institutions (50, p. 31).

Training in proper study habits has long been provided at the college level to remedy poor academic achievement. The success of this training has been consistently reported (4, 10, 36, 44). Some institutions have offered or required instruction in study habits for all freshmen, ranging in scope from one lecture during orientation to a full course lasting through the first term. Walter Blake reported that there is not only a trend for more colleges offering and planning to offer "how to study" courses, but also that there is the growing viewpoint that most students can benefit from this type of training (6).

Louis Di Lorenzo reported a study of non-probationary students. He found that the gain of his experimental group was significant over both control groups (at the one percent level on the volunteer control group and at approximately the five percent level for the non-volunteer group). It was evident that, regardless of the initial scholastic attainment of the students participating, training in study skills influenced improvement (14). Doris Entwisle evaluated 22 studies dealing with study skills courses. She indicates that as early as 1945 it was becoming clear that remedial instruction in the areas of study skills and reading was probably helpful. Her conclusions from the 22 studies surveyed were that: (1) A study skills course will usually be followed by improvement. (2) A study skills course will be most beneficial for students who desire to take it. (3) Students wishing to take a study skills course but prevented from doing so and, therefore, presumably of comparable motivation to those enrolled, will show no significant improvement. (4) Any gains noted will not necessarily be related to either content or duration of the course. She continues in her conclusions by stating that the improvement does not seem related to whether the course is voluntary or required. All of the voluntary college-level courses reported gains that were impressive, and in every case where follow-up results were available, the gains persisted. The modal gain was about half a letter grade (16).

James Creaser found that students as a group showed marked improvement in their study habits and in their college adjustment. A follow-up on the control group of two semesters indicated there had been no significant effect upon improvement of study habits because of maturation and college attendance (11).

W. B. Barbe found that students who are motivated to improve and voluntarily enroll in study skills courses raise their grade point average, but that students who are similarly motivated and do not enroll do not make the same gains (3).

### Reading Improvement

The remedial and salvage functions have long been established as objectives of junior college education. Writers have indicated the importance of reading development as one means of salvaging students at this educational level. The results of studies at the college level support the belief that students who improve their reading ability also improve their scholastic standing. The comments which follow review the need and purpose of reading improvement at the two-year college level and suggest a method for accomplishing this end. In addition, a number of studies are cited which indicate the success of experimentation in this area.

Medsker alludes to the students' needs for special help when entering junior college because they do not decide on college early

enough in high school to meet advanced reading requirements. Others, he indicates, become motivated too late. Still others have low achievement levels (34, p. 67).

James Reynolds indicates that one of the purposes of the junior college is to provide a program for students with educational deficiencies. He states that many students are graduated from high school deficient in reading skills, in oral and written expression, and in basic mathematical skills (40, p. 19).

Clyde Blocker believes that an answer might be found through the establishment of reading and writing laboratories designed for students with significant deficiencies in vocabulary, reading and comprehension, writing and study skills. He further states that to produce a permanent and significant change in the reader's total complex of skills and abilities, a program must be directed toward the modification and substitution of more effective functional, perceptual, organizational and associative abilities for old ones (8, p. 223).

Studies in the field of reading reveal that in the late 1940's and early 1950's there was great concern with reading as a developmental tool in aiding students in their scholastic success in college. These years produced many reports of improved scholastic successes for students who had participated in reading courses over those students who had received no special training in this area (28, 32, 33, 46).

Similarly favorable, but more recent studies have been made

which also indicate that students trained in reading have attained higher grade point averages than those who have not received special training in reading (6, 13, 29, 39).

Evelyn Hinton indicates that in addition to the benefits of higher scholastic achievement there is an indication that the attrition rate for those students who have taken advantage of the special courses in reading was lower than that of a similar population who had not received the training (25). Bloomer also concluded that variables other than reading ability are affected by the college reading program and that these variables result in superior academic achievement (9).

Doris Gunderson concluded that in courses which require extensive reading of materials similar to those included in a reading course, reading level appears to be an important factor in the academic success of the individuals who participate. She also concluded that reading classes were more beneficial for men and that they were of more help to the poor readers than they were to the good readers. She states that reading courses seemed to be of particular benefit for those with high intellectual capacity and low reading ability (21).

Richard Kilby found that freshmen who received rapid reading instruction earned significantly higher grades than those who were untrained. He indicates that values appeared in reading type courses but not in quantitative type courses. The effect on individual courses, however, could not be isolated (28).

D. E. P. Smith and Roger Wood found, in addition to significant gains in reading ability among the experimental group at the end of the study, that these gains still persisted 60 weeks later (47). Darrel Ray found these gains were retained without significant loss three and six months later (39).

Esther McConihe and others used a questionnaire and the results of testing to show improvement in attitudes relative to study and increased skills in the areas of reading and English in a four-week intensified pre-college program (30).

### Summary

It is apparent from the review of the literature that the educational leaders in higher education recognize the need to help high school graduates make the transition to the college campus. The literature indicates a wide variety of orientation program designs used in the attempt to meet this need both on the two-year college campuses and at four-year colleges and universities. There is general agreement that such a program is desirable.

Study skills and reading programs are listed as imperative needs for many junior college freshmen and have been recognized as having a place in the developmental programs on many four-year college campuses. The many studies in the two areas of effective study and reading indicate that improvement is possible through



special programs. Experimental programs have indicated not only a definite increase in academic achievement as measured by higher grade point averages, but also seem to indicate that there is a positive effect on persistence in college by those students who have received the benefit of special training in these areas.

## PROCEDURES

To evaluate the effect of a summer program of orientation, effective study, and analytical reading on persistence and grade-point average of first-year junior college students, the following general procedures were followed: establishing the pilot program, selecting the participants, gathering the data, and treating the data.

### Establishing the Program

Permission was received from the administration of Foothill College to offer a pilot program which encompassed the three areas previously mentioned, during the eight-week summer session of 1966. It was agreed that four sections of the program would be established primarily for June, 1966, high school graduates who were planning to enter college for the first time in the fall of 1966. This agreement contained one stipulation: enrollment could not be restricted to only this group.

After permission had been granted, carefully planned course outlines for each of the courses were selected by the writer and the three instructors assigned to teach the courses in the program (Appendix A). Of the three instructors given the assignments, two had strong counseling backgrounds, and the third was a specialist in reading and remedial English. The two with counseling backgrounds

were given the responsibility of teaching two sections each of Introduction to College and Effective Study. The instructor with the reading background was responsible for conducting four sections of Analytical Reading.

The three courses were scheduled so that a section of each was in a time block which met for three hours a day, four days a week for eight weeks. In addition to the scheduled time for the group instruction, each instructor established one hour a day before or after each time block for individual student-teacher conference as students or instructor felt the need for this type of contact (Appendix B).

The courses carried five units of credit, one semester unit of credit for Introduction to College and two semester units of credit each for the courses in Effective Study and Analytical Reading. The credit earned by students was both applicable to the Foothill College Associate in Arts Degree, and as elective, transferable credit to San Jose State College.

To encourage students to enroll in the summer session and also to make them aware of the pilot program, literature was developed and distributed to each of the 12 high schools which comprised the Foothill College District. This literature contained a special flyer relative to the pilot program as well as general literature describing the entire summer session offerings of the college. In addition, news releases were sent to the area newspapers and this medium

publicized the program.

### Study Participants

All students in the pilot program were voluntary participants. High school seniors in the district were encouraged to take advantage of the summer session offerings at the college, but followed the same registration procedures as other summer session students. Students were allowed to register in the section which best met their time schedule on a first-come, first-served basis. The only limiting factor in the pilot program was that class size was held to a maximum of 25 students.

One hundred students enrolled in the pilot program, 25 in each of the sections. At the end of the first week, 25 remained in each of the morning sections and 24 and 22 remained in each of the evening sections. These 96 students persisted for the rest of the eight-week summer session.

From this group of 96 students an experimental group of 82 students was realized. Fourteen were deleted because they did not meet the criterion of having enrolled as day students the fall semester of 1966 at the college. Four of the fourteen were evening college students with previous college experience who were fully employed in the community and planned to continue their studies as part-time students in that program. Six of the fourteen deleted

are attending, and originally planned to attend college at four-year institutions. Two students were deleted because they did not meet the criterion of being June, 1966, high school graduates without previous college experience. The remaining two to be accounted for in the group of 14 deleted were drafted into armed services shortly before the fall semester began.

The experimental group was composed of 54 males and 28 females. The group had a mean age at the beginning of the summer session of 17.66 years. The mean of their high school grade point average was 2.26, and the mean of their composite scores on the American College Tests was 19.06.

The summer control group of 41 students consisted of all June, 1966, high school graduates who enrolled in the 1966 summer session at Foothill College in courses other than those comprising the pilot program and who subsequently enrolled as college students in the fall semester of 1966 at the college.

This control group consisted of 17 males and 24 females. The group had a mean age of 18.3 years at the beginning of the summer session; a mean high school grade point average of 2.32 and a mean composite score of the American College Tests of 18.78.

In addition to this summer control group, a fall control group was established which was equal to the size of the experimental group. This allowed the experiment to gain the added dimension of

establishing a comparison of the pilot program with a group of subjects who engaged in no type of college experience prior to admission in the regular academic year.

The fall control group consisted of 82 random computer-selected subjects who approximated the same individual characteristics as the experimental group on the basis of high school grade point average, sex, age, and composite score on the American College Tests.

The fall control group did not attend the Foothill summer session and had no type of collegiate experience prior to enrolling in the college the fall semester of 1966. The group did, however, meet the criterion of being June, 1966, high school graduates who subsequently enrolled at Foothill College in the fall of 1966.

The descriptive statistics used in presenting the experimental group and the control groups are given in Table 1, 2, and 3.

The voluntary registration of the experimental and the summer control groups for the summer session did not make it possible to consider sex-related differences in college persistence and achievement. It should be noted that the summer control group was composed of almost an inverse ratio of males and females as compared to either the experimental or the fall control groups.

Table 1. Sex and age characteristics of sample.

	Age		Range	Percent
	Number	Mean		
Experimental				
Male	54	17.80	17-21	65.85
Female	<u>28</u>	<u>17.39</u>	<u>17-18</u>	<u>34.15</u>
Total Group	82	17.66	17-21	100.00
Summer Control				
Male	17	18.45	17-20	41.46
Female	<u>24</u>	<u>18.28</u>	<u>18-20</u>	<u>58.54</u>
Total Group	41	18.30	17-20	100.00
Fall Control				
Male	55	17.73	17-19	67.07
Female	<u>27</u>	<u>17.48</u>	<u>17-18</u>	<u>32.93</u>
Total Group	82	17.65	17-19	100.00

Table 2. Composite scores on ACT.

	Number	Mean	Range	Percent
Experimental				
Male	54	19.54	10-29	65.85
Female	<u>28</u>	<u>18.14</u>	<u>11-27</u>	<u>34.15</u>
Total Group	82	19.06	10-29	100.00
Summer Control				
Male	17	18.05	9-26	41.46
Female	<u>24</u>	<u>19.29</u>	<u>8-27</u>	<u>58.54</u>
Total Group	41	18.78	8-27	100.00
Fall Control				
Male	55	19.76	10-29	67.07
Female	<u>27</u>	<u>17.78</u>	<u>11-26</u>	<u>32.93</u>
Total Group	82	19.11	10-29	100.00

Table 3. High school grade point average.

	Number	Mean	Range	Percent
Experimental				
Male	54	2.22	1.0-3.4	65.85
Female	<u>28</u>	<u>2.33</u>	<u>1.3-3.4</u>	<u>34.15</u>
Total Group	82	2.26	1.0-3.4	100.00
Summer Control				
Male	17	2.14	1.4-3.0	41.46
Female	<u>24</u>	<u>2.46</u>	<u>1.7-3.1</u>	<u>58.54</u>
Total Group	41	2.32	1.4-3.1	100.00
Fall Control				
Male	55	2.23	1.2-3.4	67.07
Female	<u>27</u>	<u>2.32</u>	<u>1.3-3.5</u>	<u>32.93</u>
Total Group	82	2.26	1.2-3.5	100.00

To test the homogeneity of the groups in the areas of high school grade point averages, composite scores on the American College Tests and age, Bartlett's Test of Homogeneity was used (19, p. 242). Results of these tests established that the three groups were homogeneous in these areas before they had been exposed to any form of collegiate experience. No significant difference was indicated in the variance of the three groups in the areas tested (Tables 4, 5, and 6).



Table 4. Application of Bartlett's test of homogeneity of variance on age of three samples.

Group	$S^2$	Ni-1	$\log S^2$	$(Ni-1)(\log S^2)$	$1/(Ni-1)$
Experimental	17.7	81	1.2480	101.0880	.01234
Fall Control	17.7	81	1.2480	101.0880	.01234
Summer Control	<u>18.3</u>	<u>40</u>	<u>1.2625</u>	<u>50.5000</u>	<u>.02500</u>
Totals	53.7	202	3.7585	252.6760	.04968

$$\bar{S}^2 = 17.9 \quad N-k \quad (5\% \text{ level of significance} = 5.991)$$

$$\log \bar{S}^2 = 1.2529 \quad B^1 = .9441$$

Table 5. Application of Bartlett's test of homogeneity of variance on ACT composite scores of the three samples.

Group	$S^2$	Ni-1	$\log S^2$	$(Ni-1)(\log S^2)$	$1/(Ni-1)$
Experimental	19.1	81	1.2810	103.7610	.01234
Fall Control	19.1	81	1.2810	103.7610	.01234
Summer Control	<u>18.8</u>	<u>40</u>	<u>1.2742</u>	<u>50.9680</u>	<u>.02500</u>
Totals	57.0	202	3.8362	258.8490	.04968

$$\bar{S}^2 = 19.0 \quad N-k \quad (5\% \text{ level of significance} = 5.991)$$

$$\log \bar{S}^2 = 1.2788 \quad B^1 = .5314$$

Table 6. Application of Bartlett's test of homogeneity of variance on high school grade point averages of the three samples.

Group	$S^2$	Ni-1	$\log S^2$	$(Ni-1)(\log S^2)$	$1/(Ni-1)$
Experimental	2.26	81	0.3541	28.6821	.01234
Fall Control	2.26	81	0.3541	28.6821	.01234
Summer Control	<u>2.32</u>	<u>40</u>	<u>0.3655</u>	<u>14.6200</u>	<u>.02500</u>
Totals	6.84	202	1.0737	71.9842	.04968

$$\bar{S}^2 = 2.28 \quad N-k \quad (5\% \text{ level of significance} = 5.991)$$

$$\log \bar{S}^2 = 0.3579 \quad B^1 = .7174$$

The population sample used was considered homogeneous in terms of the criteria for the establishment of the experimental and control groups as cited above. The determining factor, however, which established the experimental and summer control groups was registration in the 1966 summer session. The fall control group did not have any collegiate summer experience.

#### Gathering the Data

The following criteria were taken from the official records of the college for two semesters for the experimental and control groups at pre-determined checkpoint dates:

1. Number of students persisting
2. Number of units in students' programs
3. Number of program changes made by the students
4. Number of units attempted
5. Number of units completed
6. Grade points earned
7. Grade point averages

The checkpoint dates were established as the beginning day of classes for each semester, during the fourth week of the semester, at the end of each semester in the fall and spring of 1966-67, and at the end of that academic year.

### Treatment of Data

The four hypotheses developed for this study were established to compare the effect of the pilot summer program on the experimental group as compared with the summer and fall control groups which had not received the same experiences. The groups were compared on persistence in college, persistence in units, changes of program, and academic achievement during the first year of college. The following paragraphs again state the hypotheses, indicate each in null form, and describe how the data relative to each were statistically treated.

1. Participants in the pilot program would be less likely to drop out of college during the first year than would those who did not participate.

To test this first hypothesis the chi square test for homogeneity was used (20, p. 227-251). A two-by-two table was established to determine the relationship of the experimental program to the summer and fall control groups. Because a two-by-two table was used, Yates' Correction for Continuity was also applied to the treatment of these data. This treatment was given to the data collected on students who completely withdrew from college during the fall and spring semesters and on the total of these withdrawals at the end of the academic year 1966-67.

To use this statistical method it was necessary to restate the hypothesis in null form as follows:

There is no difference between the experimental group and either of the control groups in the proportion of students who withdrew from college during the stated intervals.

Similarly, the chi square test of homogeneity was used in testing the second hypothesis:

2. Participants in the pilot program would drop fewer units during the year than would those who did not participate.

A two-by-five table was established to treat the data at the end of the fall and spring semesters and a two-by-seven table was used for the data totaled at the end of the year.

This hypothesis stated in null form is:

There is no difference between the experimental and either of the control groups in the number of units dropped during the stated intervals.

Hypothesis number three was also tested by the use of the chi square test of homogeneity:

3. Participants in the pilot program would make fewer changes in program than would those who did not participate.

A two-by-five table was used to determine the relationship

between the experimental and each of the control groups. The data, however, were compared only at the end of the first four weeks of the fall semester because both of the control groups received the same information as part of the orientation course required of all entering freshmen during their first semester in college.

The hypothesis stated in null form is:

There is no difference between the experimental and either of the control groups in the number of program changes made during the stated interval.

To test the fourth hypothesis:

4. Participants in the pilot program would have acquired a higher grade point average at the end of the year than would have non-participants,

an analysis of variance single classification test was used (20, p. 268-303). It is essential in the use of this technique that the groups be homogeneous. (This homogeneity was established in the description of study participants in Chapter Three of this study.)

The use of the analysis of variance technique also required the stating of the hypothesis in null form:

There is no difference between the experimental and the two control groups of the grade point averages at the stated intervals.

The analysis of variance technique was applied to the data

obtained on the college grade point averages at the end of the fall semester and at the end of the academic year 1966-67 for the three groups.

Each of the three hypotheses reflected a different aspect of student behavior throughout the year in the areas of withdrawal from college, number of units in which students persisted, program changes and college success as measured by grade point average. Because of these influences, a varying number of cases appears in each of the samples. An explanation of this varying size of samples used in performing the statistical tests on the data in each of the mentioned areas is deferred for reasons of clarity to the following chapter.

To evaluate the results of the statistical treatments given to the data, the significance level was established at five percent for rejection of each null hypothesis. This level of significance is cited as being the one most generally established by authors in the field of social and psychological statistics (19, p. 216; 43, p. 359; 5, p. 125; 45, p. 8).

### Summary

This chapter has reviewed the procedures used in establishing the program, in determining the experimental and control groups, in gathering the data used in the study, and describing the statistical methods used to treat the data.

## PRESENTATION AND ANALYSIS OF DATA

Each of the four hypotheses and the results of the statistical treatment of each hypothesis are presented separately in this chapter. The presentation is organized in sections covering each hypothesis being considered. The section headings are titled: Withdrawals from College, Unit Persistence, Program Changes, and Grade Point Averages.

### Withdrawals from College

The chi-square test of homogeneity corrected by the Yates' method for continuity was used to determine the relationship between the number of complete withdrawals from college in the experimental group with the number of withdrawals in each of the control groups. This treatment was given to the data collected at the end of the fall semester and at the end of the 1966-67 academic year. Each of the two control groups was compared to the experimental group at the times indicated.

In order to make these comparisons it was necessary to restate the hypothesis in null form:

There is no difference between the experimental group and either of the control groups in the proportion

of students who withdrew from college during the stated intervals.

During the fall semester six students withdrew from college in the experimental group and summer control group. In this first comparison the few numbers of withdrawals failed to produce a significant difference at the five percent level (Table 7).

Table 7. Withdrawals from college, fall semester, 1966-67, experimental and summer control.

	Continued	Withdrawn	Total
Experimental	79	3	82*
Summer Control	38	3	41

$$df = 1 \quad X^2_4 = .1971$$

\*Significant at 70% level

By the end of the academic year, however, 13 students in the experimental group had withdrawn from college while 11 had withdrawn from college from the summer control group. These numbers still failed to produce a significant difference at the five percent level when subjected to the chi-square test (Table 8).



Table 8. Total withdrawals from college, 1966-67, experimental and summer control.

	Continued	Withdrawn	Total
Experimental	69	13	82*
Summer Control	30	11	41

$$df = 1 \quad X^2_4 = 2.084$$

\* Significant at 20% level.

Similar comparisons were made between the fall control group and the experimental group at the end of the fall semester and at the end of the academic year. At the end of the fall semester nine students in the fall control group had withdrawn from college. Although this was three times the number who withdrew from the experimental group during the same period, the difference failed to be significant at the five percent level (Table 9).

Table 9. Withdrawals from college, fall semester, 1966-67, experimental and fall control.

	Continued	Withdrawn	Total
Experimental	79	3	82*
Fall Control	73	9	82

$$df = 1 \quad X^2_1 = 2.248$$

\* Significant at 20% level.

At the end of the academic year 13 of the experimental and 21 of the fall control had withdrawn from college. The same statistical treatment used on these data failed to produce a significant difference at the five percent level in this comparison (Table 10).

Table 10. Total withdrawals from college, 1966-67, experimental and fall control.

	Continued	Withdrawn	Total
Experimental	69	13	82*
Fall Control	61	21	82
df = 1	$X^2_1 = 1.818$		

\* Significant at 20% level

Based on the results of these four comparisons, the hypothesis that there is no significant difference in the number of students who withdrew from college during the stated intervals in the experimental and either of the control groups could not be rejected.

It is interesting to note, however, that if the critical region of the sampling distribution had been extended to the 20 percent level, the hypothesis would have been rejected in the comparison of the fall control and the experimental group at the end of the fall semester. It would also have been rejected at the end of the year in the comparison between each of the control groups and the experimental group. In this instance the treatment given the experimental group would have

accounted for fewer proportionate numbers of withdrawals from college as compared to the two control groups.

### Unit Persistence

The chi-square test of homogeneity also was used to test for difference in unit persistence of each of the control groups as compared to the experimental group. The comparison was based on the number of units of credit for which students originally enrolled minus the number of units in which they were enrolled at the end of the fall semester. The data used at the end of the 1966-67 academic year included the combined totals of units in which students enrolled at the beginning of the fall and spring semesters minus the combined totals of units in which they were enrolled at the end of the two semesters. These data were collected for each of the three groups.

The hypothesis stated in null form is:

There is no difference between the experimental and either of the control groups in the number of units dropped during the stated intervals.

This hypothesis failed to be rejected at the five percent level in any of the four relationships tested (Tables 11-14). It should be noted that in comparing the fall control group with the experimental group a significant difference which favored the latter group existed at the ten percent level at the end of the fall semester. This difference had

eroded, however, by the end of the academic year to the point where there was no difference in the significance level reached between the experimental and each of the control groups.

Table 11. Units dropped, fall 1966-67, experimental and summer control.

	Range of units dropped					Total Students
	0	.5-4	4.5-8	8.5-12	12.5-16	
Experimental	41	30	7	1	3	82*
Summer Control	23	10	3	1	4	41
df = 4	$X^2_4 = 3.541$					

\* Significant at 50% level

Table 12. Total units dropped 1966-67, experimental and summer control.

	Range of units dropped							Total Students
	0	.5-4	4.5-8	8.5-12	12.5-16	16.5-20	20.5-24	
Experimental	22	28	19	6	4	1	2	82*
Summer Control	11	11	8	4	1	1	5	41
df = 6	$X^2_4 = 7.172$							

\* Significant at 50% level

Table 13. Units dropped, fall 1966-67, experimental and fall control.

	Range of units dropped					Total Students
	0	.5-4	4.5-8	8.5-12	12.5-16	
Experimental	41	30	7	1	3	82*
Fall Control	34	23	10	5	10	82

$$df = 4 \quad X_4^2 = 8.538$$

\*Significant at 10% level

Table 14. Total units dropped 1966-67, experimental and fall control.

	Range of units dropped							Total Students
	0	.5-4	4.5-8	8.5-12	12.5-16	16.5-20	20.5-24	
Experimental	22	28	19	6	4	1	2	82*
Fall Control	29	20	13	9	10	1	0	82

$$df = 6 \quad X_6^2 = 6.5902$$

\*Significant at the 50% level

### Program Changes

The chi-square test of homogeneity once again was used to determine if there was a significant difference between the number of program changes made by the experimental group as compared with each of the control groups. The data used reflect all of the program changes made by these groups during the first four weeks of the fall semester, 1966-67. The hypothesis under consideration stated in null form is:

There is no difference between the experimental and either of the control groups in the number of program changes made during the stated interval.

Only 38 of the summer control group were used in this comparison because three students withdrew from college during the first week of the semester. Counting these students with those making program changes would have distorted the number in favor of the experimental group. The three in the experimental group and the nine in the fall control group who withdrew from college during the semester did so after the last date when program changes were allowed.

The chi-square tests failed to produce a significant difference at the five percent level in the comparison between the experimental and the summer control group on this data. The hypothesis, therefore, was not rejected in this relationship (Table 15).

Table 15. Program changes, first four weeks, fall 1966-67 experimental and summer control.

	Number of Changes					Total Students
	0	1	2	3	4-6	
Experimental	55	13	9	2	3	82*
Summer Control	23	5	5	1	4	38

df = 4

$$\chi^2_4 = 2.519$$

\* Significant at 70% level

The chi-square test, however, did indicate significance at the five percent level when comparison was made between the number of program changes made by the experimental group and the fall control group. The experimental group made fewer program changes than did the fall control group during the same period. The hypothesis, that there is no difference in the number of program changes during the stated interval in the experimental and either of the control groups, was rejected for this comparison (Table 16).

Table 16. Program changes first four weeks, fall 1966-67, fall control and summer control.

	Number of Changes					Total Students
	0	1	2	3	4-6	
Experimental	55	13	9	2	3	82*
Fall Control	40	7	18	7	10	82

$$df = 4 \quad X^2_4 = 13.715$$

\*Significant at 5% level

Rejection of this hypothesis suggested that the registration procedure may have favored the experimental group thus decreasing the need for changing their programs to acquire the classes they desired. Other than having received added counseling and advising time as a result of the summer program, no additional advantage was given to this group during the registration process.

The fact that the hypothesis was rejected in the comparison of numbers of program changes made by the experimental and the fall

control group, and that it was not rejected in the comparison of the summer control and the experimental group, posed an additional null hypothesis:

There is no difference between the summer control group and the fall control group in the number of program changes during the stated interval.

Results of the chi-square test applied to this data failed to produce a five percent level of significance; therefore, the hypothesis failed to be rejected (Table 17).

Table 17. Program changes first four weeks, fall 1966-67, fall control and summer control.

	Number of Changes					Total Students
	0	1	2	3	4-6	
Fall Control	40	7	18	7	10	82
Summer Control	23	5	5	1	4	38*

df = 4

$$\chi^2_4 = 3.712$$

\* Significant at 50% level

#### Grade Point Averages

The fourth hypothesis was established to determine if there was any difference at the five percent level of confidence in the academic achievement of the three groups at the end of the fall semester and at the end of the 1966-67 academic year. To accomplish this comparison the grade point average for each student in each of the three



groups was determined at the end of the fall semester and the end of the 1966-67 academic year. An analysis of variance, single classification, was then used across the three groups to determine if there was a significant difference at the five percent level.

The analysis of variance technique failed to reveal any significant  $F$  values for the data under evaluation at the end of the fall semester or at the end of the 1966-67 academic year.

Thus, the null hypothesis that:

there is no difference between the experimental and  
the two control groups of the grade point averages at  
the stated intervals,

failed to be rejected at the five percent level of significance (Tables 18 and 19).

Table 18. Analysis of variance single classification grade point averages, fall 1966-67.

	Sum of Squares	Degrees of Freedom	Variance
Between Groups	1.3941	2	.6971
Within Group	<u>86.7507</u>	<u>186</u>	.4664
Total	88.1448	188	

$$F = 1.494$$

Table 19. Analysis of variance single classification grade point averages 1966-67.

	Sum of Squares	Degrees of Freedom	Variance
Between Groups	1.093	2	.5465
Within Groups	<u>66.590</u>	<u>193</u>	<u>.3450</u>
Total	67.683	195	

F = 1.584

### Summary

The results of the statistical treatment of the data relating to the four hypotheses considered in this study reveal that all but one of the hypotheses failed to be rejected at the established five percent level of significance. At the end of the first four weeks of the fall semester, there was a significant difference at the five percent level in the number of program changes made by the experimental group when contrasted with those made by the fall control group. This difference indicated that fewer changes had been made by the experimental group.

## SUMMARY, CONCLUSIONS AND RECOMMENDATION

Summary

It was the purpose of this study to evaluate the effect of a pilot summer program of orientation, effective study and reading on the persistence and grade point average of first year junior college students.

To accomplish this purpose a voluntary experimental group was established. This group received course work, in the three areas previously mentioned, the summer between graduation from high school and entrance into Foothill College at the beginning of the 1966-67 academic year. To compare the effects of this program on these students with students who did not receive this experience, two control groups were determined. One control group consisted of all June high school graduates who registered for college courses during the summer session other than those offered in the pilot program and subsequently enrolled in the college the fall semester of 1966-67. The second control group consisted of students who entered the college for the first time in the fall semester of 1966-67 without the benefit of the summer experience. This latter group was selected to closely approximate the pilot or experimental group in age, sex, high school grade point average and composite score on the American

### College Tests.

Selected data were taken from the official records of the college for members of each of the three groups during and at the end of the 1966-67 academic year. These data included the number of complete withdrawals from college, number of units in which students persisted, program changes made by students and their college grade point averages.

The data were then subjected to statistical tests to determine if there was significant difference at the five percent level of confidence between the experimental and either of the two control groups in any of the areas mentioned in the previous paragraph. The tests used required the stating of the hypothesis in null form.

1. There is no difference between the experimental group and either of the control groups in the proportion of students who withdrew from college during the stated intervals.
2. There is no difference between the experimental and either of the control groups in the number of units dropped during the stated intervals.
3. There is no difference between the experimental and either of the control groups in the number of program changes made during the stated interval.

4. There is no difference between the experimental and the two control groups of the grade point averages at the stated intervals.

The statistical treatment used on the data for the first three of the hypotheses was the chi-square test of homogeneity. Because a two-by-two table was used for the first hypothesis the chi-square test was additionally corrected by Yates' formula. The data for the last hypothesis were subjected to an analysis of variance, single classification technique.

Analysis of the resultant data revealed that hypotheses one, two, and four failed to be rejected at the established five percent level of confidence. Only hypothesis number three was rejected in the comparison of the experimental and the fall control groups. The same hypothesis failed to be rejected when the summer control and the experimental groups were compared, and in the comparison made between the two control groups.

The resultant data did suggest, however, that the pilot program had a positive effect on the retention of students in college and in courses. The positive effect is reflected in: significant levels of 20 percent on the retention of students in college, a 50 percent level of significance in number of units dropped, and a 50 percent level in number of program changes made. In each instance the experimental group registered better success in remaining courses and in college

than did the control group with which it was compared.

### Conclusions

Failure of the experimental group to reach a significant level of five percent over either of the control groups makes the pilot program suspect in its present form as a means which will be of significant benefit to the retention of students in college during their first year.

Students who received the experience of the pilot program did not persist in units of original enrollment to any significantly greater degree than those who did not receive a similar experience. Hence, it apparently cannot be concluded that the summer experience had a significant effect on the number of withdrawals made by students from courses during the 1966-67 academic year.

Students who had the experience of the summer program made significantly fewer program changes during the first four weeks of the fall semester of the 1966-67 academic year than did students in the fall control group who received no type of collegiate experience during the previous summer. There was neither a significant difference between the experimental group and the summer control group, nor between the summer control group and the fall control group. These results suggest that the summer experience was of value in assisting students to establish a program of studies for the

fall semester, but that this experience was of no greater value than enrolling in any other types of courses during the summer session.

The analysis of variance technique, used on the data from the three groups at the end of the fall semester and again at the end of the 1966-67 academic year, failed to reveal a significant difference in grade point averages of the three groups. It is concluded, therefore, that the grade point averages of participants in the pilot program were not significantly affected by having received the summer experience.

Summarizing these four conclusions: at the five percent level of confidence the pilot summer program had no effect on the persistence and grade point average of first-year college students.

#### Recommendations

The results of this study indicate that the specific packaging of courses offered in the pilot program should not be continued in its present form in future summer sessions.

The positive direction of the test results in this study suggests that the wide range of abilities of the participants may have masked the results of those who would have been most likely to profit from the program. It is, therefore, recommended that prior to the establishment of similar programs several aspects of this program be reviewed. The selection of the participants may best be limited to

those who evidence ability but who may need the additional assistance of counseling and remedial study as an aid to college success.

Contact with counselors, teachers and participants in the pilot program suggests that emphasis on why to study instead of how to study might be fruitful and worthy of study.

The non-selective nature and the size of the samples prevented the consideration of sex-related differences in this study. It is recommended that additional study be undertaken taking these factors into consideration.

♣ The question of the possible effect of this program several years hence suggests additional study over a longer time span.

The positive direction of the program studied, although not conclusively significant, suggests that similar experimentation be considered which would have as its purposes the determining of the causes of junior college attrition and the seeking of more effective measures for reducing that attrition.



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## APPENDICES

APPENDIX A

Course Outlines

## FOOTHILL COLLEGE

## PSYCHOLOGY 50: INTRODUCTION TO COLLEGE

I. COURSE DESCRIPTION

Psychology 50 is a basic Foothill College requirement for all beginning freshmen carrying more than eight units. The course is concerned with:

1. Helping establish working relations and rapport between each student and his counselor.
2. Assisting each student in becoming more realistically aware of his own abilities, interests, and range of opportunities, and converting his potentialities into positive achievements.

II. COURSE OBJECTIVES AND CONTENT

- A. Course content includes material which emphasizes:
  1. Foothill College facilities, opportunities, policies and regulations.
  2. Foothill College student opportunities, responsibilities, self-understanding and decision-making.
  3. Educational and occupational information and planning.
- B. Course objective represent an attempt to assist each student to develop his:
  1. Ability to make effective use of the Foothill College facilities and opportunities.
  2. Understanding of the Foothill College policies, regulations, and student responsibilities.
  3. Orientation to self-understanding.
  4. Knowledge of educational and occupational information.
  5. Ability to make effective use of educational and occupational information in personal planning and decision-making.

III. TYPICAL COURSE CONTENT

- A. Introduction to Foothill College
- B. Academic Council; the student and his counselor
- C. Academic status, grade point average and deficiency notices

- D. Counseling, Student Personnel Services, and Testing Office facilities
- E. Determining individual interests and abilities (including certain tests to be taken in and out of class).
- F. Effective use of the Foothill College Library
- G. Opportunities and responsibilities as a Foothill College student
- H. Educational-occupational information and planning (completion of the tentative educational planning sheet, program approval, project, and other pertinent decision-making processes).
- I. Completion of an individual Project-Outline and the final Project
- J. Higher education and the California "Master Plan"
- K. Relation of the junior college to higher education and the community
- L. Evening and Summer College opportunities
- M. Student Activities
- N. Pertinent readings, and other appropriate topics assigned by the counselor

#### IV. TEXTS AND REQUIRED MATERIALS

- A. Foothill College catalog
- B. Looseleaf notebook, pen, and IBM pencil
- C. Your Library Handbook
- D. Current curriculum sheet(s) and brochure(s) for any anticipated two-year career program(s)
- E. Current catalog(s) and/or other pertinent literature of any anticipated transfer college(s)

#### V. ATTENDANCE

Students are expected to attend all class sessions.

A student will be dropped from the class when the number of absences exceeds the number of times the class meets in one week. (During the Summer Session a student will be dropped from the class when the number of absences exceeds two.)

If a student drops, or is dropped from Psychology 50, it is his responsibility to arrange a conference with his counselor to discuss the situation. The student's program will be reduced to not more than eight units if the matter is not immediately and satisfactorily concluded.



Each student is also advised to read carefully the attendance policy as stated in the Foothill College Catalog.

## VI. EVALUATION AND GRADING

A student's progress will be evaluated by observation of his class work, quizzes, examinations, assignments, class participation, required personal conferences, and other evaluative criteria determined by the instructor.

The final course grade will be based on:

- A. Attendance
- B. Meeting due dates on all assignments, quizzes, examinations.
- C. Class discussion which evidences responsible concern
- D. Satisfactory completion of the tentative educational planning sheets and pre-program approval sheets.
- E. The Project-Outline and the final Project. The project approach is considered to be a most important part of freshman orientation and particularly this course. A student who does not complete, satisfactorily, the Project requirement will receive a final grade of "F".

## VII. THE PROJECT (AND PROJECT-OUTLINE)

It is expected that the Project-Outline and the final Project will be representative of Foothill College caliber work. Each student is to refer to Appendix F "Documented Style Sheet" in YOUR LIBRARY HANDBOOK as the guide in preparing the Project.

- A. The Project-Outline is to be given your counselor during \_\_\_\_\_ . The Outline represents your progress on the Project to date. It is to be typed or inked on one side of the paper only. One of two pages should suffice for the outlines as it represents a skeletal progress report of your Project.

Topics for these Projects, in the past, have centered on occupational-educational planning and decision-making. The final projects have varied from 10 - 50 typewritten pages.

The Outline should include a brief but complete description of your Project. It must also include 5 - 10 sequential steps which you have, are, or will be taking to complete your project. Each step includes a description of that step (i. e., wrote letter to the American Medical Assn. ), the initiating date of that step (i. e., wrote the letter of 9-10-65), and the completion date of that step (i. e., received a reply letter on 10-1-65). Approximately one half of these steps should have completion dates by the time you give your project-outline to your counselor.

- B. The final Project is to be given to your counselor during \_\_\_\_\_ . Again, it is to be typed or inked on one side of the paper only. The number of pages in your final Project will depend on how well you say what you have to say.

The Project involves education-occupational information planning, and decision-making. Another integral part of the Project - probably the most important part - involves self-analysis as related to:

1. High school performance
2. Hobbies, activities, etc.
3. Work experience
4. Test scores (ability, interest, values, study and reading skills, etc.)
5. College performance
6. Brief descriptions of any interviews, phone calls, and/or letters pertinent to the topic
7. Other significant factors:  
The relating of one or more occupations to all of the above would seem to be most appropriate.

The central project theme should center on the past-present - future as it relates to you.

## FOOTHILL COLLEGE

English 52

Analytical Reading

1. Catalog Description

English 52

Analytical Reading

2 units

Prerequisites: Placement based on score in reading section of counseling examination.

Group and individual instruction in techniques for improving reading rate and comprehension. Development of advanced assimilative reading skills and expansion of vocabulary. Practice in critical reading skills demanded by college courses.

Lecture 2 hours

2. Required Background of Experience

See prerequisite. Adults may enroll on instructor's or counselor's approval.

3. Expected Outcomes

The student should be able to:

- (a) relate the physical aspects of the reading process to an understanding of the material read, since speed of reading is not controlled by eye movements, but by the rapidity with which meanings are grasped.
- (b) develop the ability to concentrate on materials necessary to academic success through practicing certain techniques.
- (c) understand the basic structure of the English sentence.
- (d) achieve dexterity in the techniques of paragraph analysis.
- (e) achieve mastery of assimilative reading skills and of those critical reading skills commensurate with his ability, enabling him to interpret the ideas set forth in various types of printed materials.

- (f) skills mentioned in "e" also include practice in making proper inferences, drawing logical conclusions, differentiating between fact and opinion, discerning author's purpose, determining the basis for reader's own response of reaction, etc.
- (g) develop ability to adjust his reading rate to the content of the material (flexibility or rate).
- (h) shift substantially from verbalizing in immature general, fuzzy terms to a more mature level which includes his use of well-chosen specific terms.
- (i) enlarge his meaning vocabulary.
- (j) apply the skills practiced here to materials he uses daily.

#### 4. Texts and References

- (a) Text: Power in Reading Skills, by Hill, Walter and Eller, William, 1964 1st Ed. Wadsworth Publ Co. Inc. Belmont, California.  
  
Improving Reading Ability by Stroud, Ammons, Bamman, 2nd Ed. Appleton-Century
- (b) Supplementary practice book: Increasing Reading Efficiency by Millet, Lyle Re. 1964 Henry Holt and Co.
- (c) Webster's New Collegiate Dictionary (Merriam Ed.) or approved substitute.
- (d) A collection of books devoted to the subject of reading to be placed on reserve in the reading laboratory and made available on a reference basis to all students.
- (e) Instruments (for laboratory practice only)  
  
The Controlled Reader (E. D. L., Inc., Huntington, New York)  
Basic Adult Albums, 1 and 2 - film strips  
High School and College Albums 1 and 2  
Classroom set manuals to accompany films.  
The Reading Skillmer (E. D. L., Huntington, New York, 1964)  
The Tach-X- (E. D. L., Inc. Huntington, New York)  
Vocabulary Album

5. Minimum Student Materials

Texts, basic and supplementary  
 Dictionary, Webster's Collegiate or approved substitute.  
 Notebook

6. Minimum College Facilities

Adequate classroom, chalkboard, electrical outlet, screen for filmstrip projector, facility for semi-darkening room. Additional laboratory space and certain machine equipment are desirable for more effective skill development.

7. Expanded Description of Content and MethodContent

The basic text provides the core of the course:

1. the search for meaning
2. practice in developing fluency and interpreting ideas
3. vocabulary enlightenment
4. work-study type skills
5. practice in developing speed of comprehension
6. how to infer topic ideas
7. how to differentiate between fact and opinion
8. how to draw conclusions
9. how to identify inferred meanings
10. how to generalize
11. how to interpret specific meanings
12. how to skim rapidly
13. how to scan for detail
14. how to analyze constructional clues for additional information
15. how to use contextual clues
16. how to put sub-heads and topic sentences to work
17. how to examine word-usage for shades of meaning (ex. of vocabulary enlightenment)
18. how to avoid illogical conclusions based on extraction of inaccurate meaning and inadequate comprehension
19. how to develop and maintain speed of comprehension
20. how to locate main ideas in a selection
21. how to summarize succinctly
22. how to search out detail

23. presentation of the more common affixes and drill on their use and meaning, and drill on the function of prepositions; and attention to word form, such as: depart, departure; fallacy, fallacious
24. how to recognize organizational patterns

The supplementary text by Miller provides laboratory practice materials (Approx - 15-20 minutes per period.)

### Method

A standardized test - The Nelson Denny Reading Test is given at the beginning of the course to determine individual percentile rank in rate, comprehension, and vocabulary.

At the close of the course an alternate form of the same test is given to determine growth.

A complete schedule of lessons and recitation dates is provided at the beginning of the semester, including test dates.

- (a) Textbook lesson discussions of assigned unit, comparison of answers on presentation of evidence included in selection.
- (b) Student prepares assignments by noting his references to facilitate his recitation and validate his evidence; much stress on accurate interpretation of selections.
- (c) Timed speed and comprehension exercises.

### 8. Methods of Evaluating Outcome

- (a) skills tests to determine progress with various skills
- (b) comprehension tests (Informal)
- (c) rate tests (Informal)
- (d) class participation on assigned text materials
- (e) preparation (evidence by each individual is mandatory)
- (f) growth by standardized test (rate, vocabulary, comprehension)

- (g) To summarize: the student is expected to develop a pattern of consistency in effort and performance in all areas, and to give evidence of his improvement during each class meeting, or during most class meetings.
- (h) careful observation of students evidenced by their class responses and test results
- (i) individual conferences - (most revealing useful information to instructor)
- (j) progress reports - (Mid-terms and Finals, etc.)

## FOOTHILL COLLEGE

PSYCHOLOGY 53: EFFECTIVE STUDYCourse OutlineI. COURSE DESCRIPTION

Approaches to college learning, including diagnoses of difficulties, development of new skills, self insight, positive attitudes and critical thinking as they relate to effective study.

II. CONTENT AND OBJECTIVES

A. Course content includes materials which emphasize:

1. Use of time and organization of materials.
2. Use of library, study resources, and facilities.
3. Techniques of study, learning, note taking, listening, and thinking.
4. Preparation for and taking of examinations.
5. Self-insight, attitudes, and career goals.

B. Course objectives represent an attempt to assist each student to develop his:

1. Self-insight, understanding of teachers, and positive attitude toward study and learning.
2. Critical thinking and listening skills.
3. Ability to make effective use of the library and other study resources.
4. Vocabulary and understanding of study approaches to different subjects.
5. Ability to effectively organize study materials and organize time.
6. Note-taking and exam-taking skills.

III. TYPICAL COURSE CONTENT

- A. The Student Habits Check List
- B. Defining Academic and Career Goals



- C. Self-Commitment, Attitudes, and Motivation
- D. Organizing Study Plans and Materials
- E. Developing Critical Listening and Thinking
- F. Aptitude, Interest, Value and Basic Skills Tests
- G. Values in Small Group and One-to-One Study Sessions
- H. Principles of Mental Health
- I. Vocabulary, introductory or "qualifier" words, and the "14 Master Words"
- J. Note-Taking Techniques
- K. Types of Examinations
- L. Preparing for Examinations
- M. How to Write Examinations
- N. SQ3R (SQ4R)
- O. Reading Techniques
- P. Study Resources, Materials, and Facilities
- Q. Knowing your Teacher and the Course

#### IV. TEXTS AND REQUIRED MATERIALS

- A. Hook, J. N. How to Take Examination in College, New York; Barnes and Noble, Inc., Latest Edition
- B. Morgan, C. T. and Deese, J., How to Study, New York; McGraw-Hill Book Co., Latest Edition
- C. Pauk, Walter, How to Study in College, Boston; Houghton Mifflin, Latest Edition
- D. Looseleaf notebook, pen, and IBM pencil
- E. A list of supplementary references will be provided

#### V. ATTENDANCE

Students are expected to attend all class sessions.

A student will be dropped from the class when the number of absences exceeds the number of times the class meets in one week. During the Summer Session, a student will be dropped from the class when the number of absences exceeds two.

Each student is also advised to read carefully the attendance policy as stated in the Foothill College Catalog.

#### VI. EVALUATION AND GRADING

A student's progress will be evaluated by observation of his class work, quizzes, examinations, assignments, class participation, required personal conferences, and other

evaluative criteria determined by the instructor.

The final course grade will be based on:

- A. Attendance
  - B. Meeting due dates on all assignments, quizzes, and examinations.
  - C. Class discussion which evidences responsible concern.
  - D. The meeting of due dates on all assignments, and the student's attendance are of special importance in this class. Although scores from national tests taken in class will not affect the student's grade, the student's sense of responsibility in taking these tests will be noted by the instructor.
- VII. Since effective study methods vary with the individual student, and since this class is a "mirror" of the student's various methods - an attempt will be made to take the "total" student into consideration for evaluative purposes.

APPENDIX B

Class Schedules

## FOOTHILL COLLEGE

SUMMER SESSION, 1966

SPECIAL SUMMER PROGRAM OF STUDIES FOR  
HIGH SCHOOL GRADUATES

We want to be the first to congratulate you on the completion of your high school education.

Many of you will be coming to Foothill College in the Fall of 1966. Because this happens to us each year, we know that you have questions, mixed feelings and ideas as to what college life really is. Our experience indicates that many of your problems will stem from lack of orientation to college and a need for sharpening your study and reading skills.

It is for this reason that we are offering a special program in these areas during this coming summer session.

## MORNING &amp; EVENING CLASSES

Classes begin June 20

Registration: June 6-18  
Monday through Thursday8:30-11:30 A. M. , 1:00-4:30 P. M.  
6:30-9:30 P. M.

Administration Building

Just tell the counselor on duty that you wish to enroll in the special program for high school graduates.

GROUP I

Kavelman

4000 Psychology 50 - MTWTh, 8:30-9:00 A. M.  
Group and individual counseling sessions with an emphasis on vocational-education guidance and study skills.

- 4001 Psychology 53 - MTWTh, 9:00-10:20 A. M. Kavelman  
 Approaches to college learning, including  
 diagnosis of difficulties and a development  
 of new skills.
- 4002 English 52 - MTWTh, 10:30 A. M. -11:20 A. M. Stokes  
 Group and individual instruction in techniques  
 for improving reading rate and comprehension.

GROUP II

- 4010 English 52 - MTWTh, 9:30-10:20 A. M. Stokes  
 4011 Psychology 50 - MTWTh, 10:30-11:00 A. M. Kavelman  
 4012 Psychology 53 - MTWTh, 11:00 A. M. -12:20 P. M. Kavelman

GROUP III

- 4020 Psychology 50 - MTWTh, 6:00-6:30 P. M. Bushnell  
 4021 Psychology 53 - MTWTh, 6:30-7:50 P. M. Bushnell  
 4022 English 52 - MTWTh, 8:00-8:50 P. M. Stokes

GROUP IV

- 4030 English 52 - MTWTh, 7:00-7:50 P. M. Stokes  
 4031 Psychology 50 - MTWTh, 8:00-8:30 P. M. Bushnell  
 4032 Psychology 53 - MTWTh, 8:30-9:50 P. M. Bushnell