

AN EVALUATION OF PROJECT BOOST, A PROGRAM FOR  
1976 FIRST SEMESTER FRESHMEN ON ACADEMIC  
PROBATION AT OKLAHOMA STATE UNIVERSITY

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## CHAPTER I

### INTRODUCTION

In the past decade colleges and universities across the country were forced to look at the admission and academic structures they had built and ask whether or not they would (or even should) make alterations so as to be more accessible to the high risk student. Some colleges have responded that this is not their problem; they will accept any student regardless . . . if he/she can meet their normal entrance requirements. Other colleges have made efforts to recruit and enroll these students and have offered much needed supportive assistance once they are admitted. However, some institutions of higher learning have admitted these non-traditional high risk students, but have made very little effort to help them. These students must "make it" on their own just like "normal" students.

Beginning freshmen face many new experiences upon entering college, such as being away from home for the first time, making new friends, plus attempting college level courses. The adjustment is compounded when the student is admitted as a high risk student on academic probation. Every year many students are admitted to colleges and universities so classified. Many of these students are deficient in study skills, reading skills, and cannot possibly compete with their peers. The trend towards universal higher education

has increased the number of high risk students entering colleges and universities each fall.

#### Need for Study

There is a need today in higher education for an expansion of programs and approaches that take into consideration the varying abilities, goals and past experiences of a wide range of students. Specifically, there is a need for experimental programs at the college level which are designed to meet the varying educational, social, and emotional needs of the "high risk" students and increase his/her chances for academic success. These programs must attempt to individualize and personalize the educational experiences of each student. Unless institutions of higher education rise to meet this challenge, they may risk the possibility of becoming irrelevant to a significant segment of people in our changing society (Robl, 1971).

Warren (1976) states that today's college experience tends to hold greater threat for students who have an inadequate preparation and these students may develop negative attitudes about themselves if they are unable to cope adequately with this new experience.

It is hoped that a careful examination of programs designed for the college "high risk" student will help educators compensate for this type of student's inadequate preparation, and make higher education responsive and relevant to his/her particular needs.



### Purpose of Study

The purpose of this study is to determine if a special program designed for students on academic probation actually does assist these students to become more academically successful.

This study was designed to investigate the relationship of academic success and "Project Boost," a program for those students admitted on academic probation at Oklahoma State University.

This research will indirectly study the question of how valid and realistic the present restrictive admissions policies and standards are at the university level.

## CHAPTER II

### REVIEW OF LITERATURE

The fact that many first year students are successful when it appears that they should be failures presents an interesting dilemma for college faculties and administrators. Many theories and rationales have been offered in an attempt to explain the phenomenon, but the fact remains that many apparent potential failures are successful in higher education.

The result of these students being a success has caused the question to be asked: Who should go to college? and What programs should be offered to help the potentially low achieving students be successful? In looking for the answers to these questions this writer examined the literature in the following general areas: (1) academic achievement, (2) predictors of college academic success, and (3) the effectiveness of counseling.

#### Academic Achievement

After reviewing fifty-one papers concerning academic achievement written since 1960, Kornich (1965) concludes that academic success is determined by a complex of factors both external and internal to the student. Pitcher and Blaushild mention several areas they see as important to academic success. These factors include the student's level

of high school preparation as compared with the preparation of other college students, emotional disturbances that may have affected academic development and/or success, language skills and values--for example, where he places academic achievement in his hierarchy of values (Pitcher and Blaushild, 1970).

Roth and Meyersburg concluded after reviewing research involving academic achievement that some students of academic achievement and non-achievement believe that failure in college is not always a reflection on the individual's intellectual ability. It is concluded by some that poor achievement may be a choice made by the student, and therefore not necessarily related to his ability to achieve. The reasons behind the student's choice for failure may have a variety of points of origin, but "The psychogenesis of the non-achievement syndrome" may involve "a series of very subtle devaluations of the child, stemming from the parent-child relationship" (Roth and Meyersburg, 1963, p. 538).

Based upon the above review of research, Roth and Meyersburg (1963) offer these constructs for academic non-achievement.

1. The student's poor academic achievement does not arise from an incapacity to achieve. There are other factors preventing achievement.
2. Poor achievement is an expression of the student's choice.
3. The student's choice for poor achievement operates in the preparation he makes for achievement.
4. Poor academic skills are related to poor achievement and are an outgrowth of previous choices for poor achievement.
5. Poor achievement is a function of the preparation for achievement which the student makes.

6. The choice for poor achievement may be expressed as overall limited achievement or as achievement in deviant channels.
7. The patterns of choice for poor achievement are enduring and do not undergo spontaneous change.
8. Achievement patterns, like other enduring behavior patterns, can be considered to be related to personality organizations (pp. 535-536).

Lusak (1973), after reviewing the research on achievement, referred to four types of low achievers: (a) students with low achievement but high levels of potential, (b) students with low achievement associated with psychopathology, (c) students with low achievement associated with dysfunctioning of the central nervous system, and (d) students with low achievement associated with low intelligence. Low achievers are frequently associated with his last category, but possibly in error.

Since it is not known with most students which one of Lusak's categories is applicable, this author researched the literature on underachievement because seemingly many students in the population of the study indicate more potential than their test scores and high school GPA would allow.

Leib and Snyder (1967) used the Personal Orientation Inventory developed by Shostrom in research with 28 underachieving college students at Ohio University. A list of basic characteristics of underachieving students was developed including concern for immediate need gratification, a need for social love and affection, and a need to be dependent on others. In addition, underachievers prefer not to take risks or face threats, are less able to express negative feelings

directly, have limited perceptions of others and themselves, and are typically discontent and dissatisfied with themselves.

Choi and Malak (1975) tried to identify outstanding problem areas related to poor academic performance as seen by faculty members. Sixty-nine of the 160 faculty members returned questionnaires designed by the authors. In rank order the ten most prominent characteristics of student's poor academic performance as seen by the faculty were:

1. Inability to synthesize factual and conceptual principles.
2. Inability to apply principles in analogous situations.
3. Inability to perform adequately on major exams.
4. Inability to write effective essays.
5. Failure to attend class regularly.
6. Inability to complete assignments on time.
7. Inability to comprehend conceptual principles.
8. Insufficient prerequisite knowledge and skills.
9. Inability to ask questions in class.
10. Lack of participation in class discussion (p. 318).

Lum (1960) completed a study using 60 college students drawn from psychology classes at the University of Hawaii. Data was gathered using the Study Habits and Attitude Test developed by Brown and Holzman. Lum found that underachievers were less motivated to study, were less confident, were less able to work effectively while under psychological pressure, had lower expectancies than overachievers, and were more present oriented.

Gilbreath (1967), using a questionnaire he developed, did a study involving 81 college male underachievers that had volunteered for

counseling. Conclusions were that underlying emotional patterns of underachievers include a strong need for dependent relationships, a self concept that is inferior, an inability to express feelings of anger overtly, a weakness in ego strength, and ambitious or unrealistic purpose goals and values.

Wellington and Wellington (1965), after reviewing a number of studies involving underachievers of all ages, feel that there is valid evidence that underachievers have a low self concept and a low level of aspiration, are self concerned, are somewhat anxious and dependent, and take little responsibility for themselves. In general, the underachiever has a self concept which is confused between hope that he will succeed and unwillingness to take necessary steps to do so for fear that he will fail.

Keeping the above generalization in mind, however, this author found it in conflict with the findings of Raph and Golberg (1966). After reviewing 77 studies of underachievement they discovered that the data was inadequate for making generalizations regarding causes and treatment.

In conclusion, the literature suggests many causes for underachievement. Generally, underachievement may be an unconscious choice by the student; characteristics such as poor self concept, need for dependency, and overly concern for self are evident and add to the problems of the underachiever.

#### Predictors of Academic Success

Concern with prediction of academic performance has increased during recent years, according to David Lavin in introducing the

subject of his book, The Prediction of Academic Performance (1965).

In 1947 Eysenck estimated that a thousand prediction studies had been published.

Binning (1968) highlights the error involved even in careful admissions practices when he points out that colleges with selective admissions policies base their selection of students primarily on high school grades and academic aptitude scores. Binning goes on to point out the error in this practice when he states that more than 350,000 students flunk out of college each year.

One of the most commonly accepted measures of success in college is the grade point average of the student. Lavin (1965) states that uncontrolled sources of variation in grades themselves may cause some of the prediction errors. Researchers have for a long time blamed the problems of predictions on man's inability to adequately measure the variables involved in predicting. Perhaps, then, what is needed is to go back and consider the grades and their variation in order to improve predictions made.

Lavin (1965) goes on to say that the variation in grades might be due to two factors. First is the fact that not all students take the same courses from the same instructors and this means that students are exposed to different types of material. And secondly, that the curriculum in some classes may be more difficult, thereby making it more difficult to obtain high grades in these classes, while other courses are easily passed. The third hindrance to comparing grades is the difference in standards by teachers; some give tests, some assign papers; others require some combination of the two forms of

evaluation. What this all leads to is a total lack of comparability when dealing with grades.

However, Guisti (1964) after exploring a number of studies on predicting college academic success, concluded that high school GPA was found to be unquestionably superior. He believes that future research should investigate the reasons for this superiority.

Burnham and Hewitt (1972) used a multiple regression in trying to determine the best predictor of college GPA. The study involved 1552 students from Yale University. The variables under consideration were high school GPA and scores from the CEEB (College Entrance Examination Boards). The authors concluded that high school GPA and CEEB were about equally good predictors of subsequent college achievement.

Dunham (1973) used a stepwise method of multiple regression with 300 freshmen from Hanover College in Indiana to determine which of 10 predictive variables best predicted college GPA. The conclusion was that high school GPA was significantly more potent as an academic predictor than the other nine variables tested.

Seemingly, one of the more successful attempts to predict academic success is the ACT (American College Testing) Assessment Program. ACT materials are important to this study since they are a criterion for admission at Oklahoma State University. Some of the features of the ACT Assessment Program, as listed in the 1973-74 edition of Using ACT on Campus, are:

1. Provide estimates of the student's academic and out-of-class abilities.
2. Provide students with information about their college choices.
3. Provide dependable and comparable information for pre-college counseling in high schools and for on-campus educational guidance.



4. Help colleges place freshmen in appropriate class sections in introductory courses in English, mathematics, social studies, and natural sciences.
5. Help colleges identify students who would profit from special programs such as honors, remedial, and independent study (p. 1).

The ACT Assessment program is intended to be a comprehensive assessment program to be used by students planning post-high school education (Using ACT on Campus, p. 1).

In a study done at the Air Force Academy using 271 freshmen, Westen and Lenning (1973) tried to determine which was the best predictor, ACT or SAT (Scholastic Aptitude Test) for highly selective colleges having a preponderance of students available with exceptional ability. The results suggested that possibly ACT scores can be at least as predictive and possibly more predictive of grades at highly selective institutions than SAT scores.

A regression line between the fall semester GPA and Composite ACT score was computed for 204 persons enrolled during 1968-69 by Merritt (1973) at Delta State College in Cleveland, Mississippi. The results of the investigation indicated that the ACT can be used to predict academic performance of college students from low socioeconomic backgrounds.

In trying to determine the relationship between the ACT, high school class rank, and college GPA, Borub (1971) divided 996 freshmen into groups according to sex and ethnic background. A two-way analysis of variance was used to establish significance. The study revealed that high school class rankings are better predictors of college GPA than ACT. The study also indicated that ACT has built-in sex and ethnic bias.

Maxey and Lenning (1974) conducted a study equating the ACT-Composite score and the SAT total score using the freshmen at 10 randomly selected colleges. The findings showed that SAT total scores and ACT-Composite cannot be easily equated across all colleges, indicating that the two batteries differ philosophically and technically.

Humphries (1973) tested to see if high and low students of academic promise might show different levels of predictability of their college grades. High school rank and ACT subscores were used as predictors. He concluded that high promise students were more predictable than the low students.

Loeb (1972) reviewed the literature relating to high school rank ACT-Composite and high school GPA as college predictors. High school rank proved to be a better predictor generally than ACT-Composite and high school GPA.

Beasley and Sease (1974) in a study involving 176 black students at the University of Colorado used ACT subscores English, Mathematics, Social Studies, Natural Science and Composite. They also used SPS, a self reporting inventory of biographical information given with the regular administration of the ACT. The study confirmed previous studies that the ACT has predictive validity for black students and that biographical data can be useful in predicting academic success.

Loeb (1972) after learning that the median attrition rate for all students enrolled in four-year college programs was 50%, did a study to determine if grouping students academically improved the attrition rate. High school rank and ACT subtests in English, Mathematics, Social Studies and Natural Science were used as predictors to group students. The conclusion was that a program that involved the

planning of curriculum for specific levels of predicted academic performance helped to significantly decrease the attrition rate at the University of Illinois at Urbana.

Starette (1974) challenged the idea that the SAT is a better predictor of academic success for minority students than high school achievement. Two hundred freshmen students from Indiana University were involved in the study. High school rank was found to be a more valid predictor of academic success than were SAT scores. The addition of SAT total scores to high school rank was seen to be of limited usefulness in predicting academic success of minority students.

Gross and Fagan (1974) used a multiple regression analysis in determining the predictability of college performance of males and females. The subjects were from 12 senior colleges and 10 junior colleges in New York City. The variables used in the prediction were the Stanford Achievement Test and average grades for school subjects in English, Mathematics, Science and Social Studies. The conclusions were that the GPA of female students can be more accurately predicted than the male subjects in the study.

Raffini (1974) researched the predictive value of Resultant Achievement Motivation. The RAM assumes that individuals have a general dispositional motive to achieve success and a general dispositional motive to avoid failure. In the study at the University of Wisconsin at Whitewater, 1472 freshmen were used. Other variables examined were high school rank and ACT-Composite. It was concluded that the ACT-Composite and high school rank were about equal in their predictive ability and both were better predictors than RAM.

Farley (1972) examined RAM (Resultant Achievement Maturation) as a predictor of academic success at University of Wisconsin. He found RAM to be a significant predictor of academic success among entering freshmen at University of Wisconsin.

Tatham and Tatham (1974) used 73 black students at Johnson County College, Overland Park, Kansas to determine why some black students were academically successful and some were not. The authors concluded that measures of academic achievement should not be the only measures used in selecting black students for admittance to college. Other measures such as motivation and socio-economic background need to be explored.

Chase and Johnson (1977) did a study using chi-square analysis with 250 black high risk freshmen from Indiana University. The results indicated that the best predictors of college success were the number of English courses completed in high school and high school class rank.

Ayers and Rohr (1972) conducted a study to determine the role that personality plays in predicting academic achievement. The study at Tennessee Technological University consisted of 415 subjects who were majoring in Education. The 16 Personality Factor Questionnaire was used as a predictor. The results of the study were mixed. With some subjects the 16 PF was an adequate predictor; with others it was not. The authors suggested that the 16 PF should not be used alone when predicting achievement in academic areas.

Berdie and Preswood (1974) conducted a study comparing the predictions of Freshman GPA and Overall for four years of college GPA. The subjects were 100 male students at the University of Minnesota. The measures used to predict academic performance were high school rank

and a percentile score on the Minnesota Scholastic Aptitude Test. They concluded that variables which best predict academic success in the freshman year may have little or no usefulness in predicting success over four years of college for certain students.

Khan (1974) conducted a study on predicting academic achievement involving a cross sectional sample of students from colleges and universities in Ontario. The battery of predictive variables included high school grades, standardized tests in verbal and mathematical aptitudes and standardized achievement tests in English, Mathematics and Physics over several years. He found that a regression equation developed one year could be used several years with incoming freshmen without any significant loss in predictive power.

Hansen and Neijahr (1973) completed a long range study to determine the validity of the Preengineering Ability Test. Academic success was indicated by graduation from college and receiving a graduate degree. The 115 subjects were former Columbia University students. The Preengineering Ability Test was demonstrated to have predictive ability for long term academic success.

The literature on predicting academic success indicates a difference of opinion among the authors writing on the subject. However, some authors feel that each college and university needs to determine their special predictive variables for their own institution. Stasser (1970) reported that several investigators have emphasized the need for institutional research in order to assess the relevance of predicting academic achievement in any given institution, because of the diversity found in various colleges. Mayhew (1965) also made an appeal for institutional research. Brown (1962) in reviewing research on

personality and college environment, indicated that differences in campus cultures should be considered in the prediction of academic achievement. Many researchers express the need for institutional research by dedicated educational investigators.

### Counseling Effectiveness

Generally, the literature surveyed for this study supported the idea that counseling, individual or group, aided low achieving students toward improved academic achievement.

Roth, Mauksch, and Peiser (1967) selected 174 failing students at Illinois Institute of Technology. One-half of the students were provided with group counseling as a condition for remaining in school. The other one-half was a control group. The results indicated that the counseled group increased their GPA's significantly and that these changes held over time.

After reviewing twenty-three studies that evaluated the effectiveness of various treatment programs for underachieving college students, Bednar and Weinberg (1970) discovered that treatment programs associated with improved academic performance were characterized as (1) structured rather than unstructured, (2) lengthy rather than brief, (3) counseling aimed at the dynamics of underachievement used in conjunction with an academic program, (4) having high level of therapeutic conditions (empathy, warmth, and genuineness), and (b) appropriate to the needs of students (p. 319).

Bednar and Weinberg (1970) also found that the investigations attempted to test the effectiveness of group counseling, individual counseling, and study skill courses or a combination of these three

treatment programs. A comparison of these three treatment programs suggests that an academic studies program alone is ineffective, but when used as an adjunct to either group or individual counseling, it is associated with improved GPA. A comparison of individual and group counseling suggests that group counseling is potentially most effective.

Spector and Garneski (1966) compared the academic performance of an experimental group (who received a six to eight hour pre-entrance counseling program) with a control group who did not receive the counseling. The counseled group earned significantly higher grades and at the end of one semester the drop-out rate of the non-counseled group was three times higher than the counseled group. The program of counseling emphasized the interpretation of testing information (both interest and achievement) and the selection of curricula that was compatible with the students' measured interests, aptitudes, and academic potential.

Pinto and Feigenbaum (1975) investigated the effects of counseling on academic achievement of 132 college students at City University of New York. Each counseled student was compared to a hypothetical twin, which represented the average of five noncounseled students closely matched to the counseled students on each of five control dimensions. No significant differences were found between the counseled students and their controls. However, when counseled students were grouped according to the counselor they had seen, significant differences emerged. The authors found, for example, that one counselor was quite successful with males and another very unsuccessful with females.

In the summer of 1965, Garneski (1966) evaluated a counseling program for freshmen entering Phoenix College. In an assessment of the effectiveness of the program, grade point averages, semester hours earned, and drop out rates for the counseled and non-counseled groups were compared at the end of the semester and one year. Counseled groups achieved at significantly higher levels than the control group on all measures except for that of the number of semester hours earned.

Williamson and Bordin (1972) sought to determine the effectiveness of counseling provided at the University of Minnesota Student Counseling Bureau in 1938. Their subjects were 384 freshman students with educational, vocational, or personal problems. At the end of one year results showed that the counseled students rated significantly higher on an adjustment scale designed by the author. The counseled students earned significantly better grades than non-counseled students--2.18 to 1.97, respectively, on a four-point scale.

Campbell (1963) did a twenty-five year follow-up of the subjects used in the Williamson and Bordin study in 1963. He reached two conclusions about the effect of counseling on students. First, a very mild difference in achievement existed between counseled and non-counseled students twenty-five years later, especially among men. Second, counseling did exert a beneficial effect on the student's achievement. While the effect was most visible on immediate criteria such as grades and graduation, and although it declined somewhat, the effect of counseling did not completely disappear over twenty-five years.

A follow-up study was done by Meadows (1975) approximately seven years after an earlier study done with freshmen at the Georgia Institute of Technology. The original study consisted of 200 subjects,



divided into two groups. One group received counseling and the other did not. Two questionnaires were mailed to the former subjects--the Minnesota Satisfaction Questionnaire, a standardized job satisfaction measure, and a Former Student Questionnaire designed by the author. One hundred and twenty-two of the former subjects responded. Data presented in the article included comparisons of academic achievement, graduation rates, curricular migration, and job success and satisfaction. Meadows concludes that there is reasonably strong evidence that the subjects involved in counseling experienced beneficial effects.

Mitchell and Hall (1975) selected thirty-seven failing male students at the University of New South Wales that were repeating courses taken the previous year. Subjects were divided into four groups with one being a control group and the other three receiving various types of counseling. Eighty-eight percent of the counseled students passed their course examinations and two years later sixty-three percent were still succeeding.

Brooks (1968) did a study involving 863 freshmen admitted to Shasta College in California on academic probation in the falls of 1967 and 1968. Believing that the initial choice of major was related to later student success, Brooks' study was designed so that the 1968 freshmen received counseling during the summer prior to enrolling with emphasis placed upon choice of major. Results indicated that the subjects who received counseling with emphasis upon major selection were significantly more successful academically than the noncounseled group.

However, Goldstein (1967) examined the academic records of a group of freshmen underachievers five years after an experimental counseling program had been completed at the University of Cincinnati.

The differences in the four year GPA among the four groups, an individually counseled group, a group counseled, and two control groups, were trivial and nonsignificant. The two control groups had nonsignificantly higher percentages of graduates and lower percentages of dismissals than the two counseled groups. Goldstein contends that these results tend to cast some doubt upon the usefulness of brief traditional educational and vocational counseling for effectively dealing with academic problems of freshmen underachievers.

The literature on counseling effectiveness is somewhat contradictory, but this writer believes that, over all, it supports the assumption that students can benefit from the experience of counseling.

#### Summary

In this chapter the literature was examined in three areas: academic achievement, predictors of academic success and counseling effectiveness. The literature suggests many causes for underachievement. Possibly it may be the unconscious choice by students. Characteristics such as need or dependent relationships, poor self concept, and unrealistic purposes, goals, and values are recognized in underachievers by various authors. The literature on prediction of academic success suggests there are many different predictors used in colleges across the United States with a great deal of difference of opinion as to which predictor is the best. Mistakes are made in prediction, pointed out by the fact that 35,000 students fail in college each year. Many studies were examined on counseling effectiveness. Generally, in the studies cited, counseling was determined to be beneficial.

## CHAPTER III

### PROCEDURES

The purpose of this chapter is to (1) define selected terms, (2) describe the selection of the population, (3) explain the experimental design and procedures, (4) describe data collection and analysis procedures, (5) state the hypotheses and research question, and (6) suggest the limitations of this study.

#### Definition of Terms

The definition of terms listed below will decrease the possibility of misinterpretation or misunderstanding.

High Risk Student. This term is used to describe that student who, based upon his/her past experience would have difficulty succeeding in college.

Admission Standards. The admission standards (for Oklahoma residents at Oklahoma State University) are defined as the admission policy determined by the Oklahoma State Regents for Higher Education. They are as follows:

Any resident of Oklahoma who (a) is a graduate of an accredited high school, (b) has participated in the American College Testing Program, and (c) meets at least one of the following requirements is eligible for admission to either of the state universities in the Oklahoma State System of Higher Education.

1. Maintained an average grade of "B" or above in the four years of his high school study (2.5 or higher on a 4.0 scale).
2. Ranked scholastically among the upper one-half of the members of his high school graduating class.
3. Attained a composite standard score on the American College Testing Program which would place him among the upper one-half of high school seniors, based on twelfth grade national norms (Oklahoma State Regents for Higher Education, 1967).

Project Boost. This is the title of a program which was available to Oklahoma State University freshmen on academic probation during the fall of 1976. The total number of students eligible for this program was 106; however, only those that wanted to participate did so. The staff consisted of four paraprofessionals including the author, and one graduate assistant. The graduate assistant was the director of the program and was responsible to the Director of Special Services. The primary emphasis of Project Boost was one-to-one counseling. An effort was made to personally contact each student and establish a relationship with that student. Project Boost was involved in the academic life of the students by providing information about tutors and encouraging students to attend sessions on study skills at the learning center. Occasionally, paraprofessionals would contact professors on behalf of students when special problems would arise. Special groups such as career choice workshops, assertive training, life planning, and growth groups were planned for the students.

Academic Probation. This term is used to describe the status of a freshman who failed to meet the defined admission standards.

American College Testing Program Examination (ACT). The ACT is a test designed to measure as directly as possible the abilities students will have to apply to college academic work. The four main parts of the test are: Mathematics, English, Science, and Social Studies. A fifth score, the composite, is an index of the total educational development of the student.

Boost Participants. Those students who met with a paraprofessional at least two times are referred to as Boost Participants.

Non-Boost Student. This term has reference to those students eligible for Project Boost activities, but did not participate.

Academically Successful. Those subjects whose actual first semester GPA is higher than his/her predicted GPA will be defined as academically successful.

Mean Achievement Index. The difference between each student's predicted GPA and actual GPA is his achievement index. By averaging a group of students' achievement indexes, one would then have the mean achievement index of the group.

#### Selection and Description of Subjects

The selection of subjects was controlled by the fact that the application for each student was reviewed and an admission decision was made based upon the criteria as developed by the Oklahoma State Regents of Higher Education. In the academic year 1975 and year 1976, the subjects involved had less than 2.5 high school grade point average (on a 4.0 scale), four years of high school credit, ranked in the lower one-half of their senior classes, and had less than 18 composite standard score on the American College Test (ACT).

Since the Oklahoma State Regents for Higher Education have limited the number of students to be admitted on academic probation to five percent of the preceding freshman class, there were more applicants than could be allowed admission. Therefore, Dr. Robin Lacy, Director of Freshman Programs, had an interview with each prospective student who did not meet regular entrance requirements, and eliminated those which he felt were not "determined and motivated to be successful college students."

### Hypotheses

The following hypotheses were tested at the .05 level of significance:

- H<sub>1</sub>: The mean achievement index of all freshmen students entering in the fall of 1976 on academic probation is greater than the mean achievement index of the freshmen students entering in the fall of 1975 on academic probation.
- H<sub>2</sub>: The mean achievement index of the Boost Participants is greater than the mean achievement index of the Non-Boost students.
- H<sub>3</sub>: The mean achievement index of the Boost participants is greater than the mean achievement index of the freshmen students entering in the fall of 1975 on academic probation.
- H<sub>4</sub>: The mean achievement index of the Non-Boost students is greater than the mean achievement index of freshman students entering in the fall of 1975 on academic probation.

### Data Collection

The following data were collected on those freshmen on academic probation in the 1975 class and the 1976 class: the ACT mathematics

science, social studies, English, and composite scores; high school GPA, and first semester freshman GPA.

Permission was granted by Dr. Raymond Girod, Registrar of Oklahoma State University, to this investigator to have access to the personal files of the above mentioned students. Data were collected during the spring semester of 1977.

#### Data Analysis

The following steps were taken in this study to attempt to determine the significance of the data.

1. A multiple regression was computed using first semester freshman GPA on ACT and high school GPA for all students admitted on academic probation in the fall of 1975. Of the two following formulas, the most efficient predictor of first semester freshman GPA was used:

$$PGPA = a + b_1HSGPA + b_2ACT-E + b_3ACT-NS + b_4ACT-M + b_5ACT-SS$$

$$PGPA = a + b_1HSGPA + b_2ACT-C$$

2. Stepwise solution tests were performed at each step to determine the contribution of each variable in the equation as if it were entered last.

3. One of the above regression equations was used to predict the grades for the 1975 and 1976 freshmen students on academic probation.

4. The predicted GPA was subtracted from the actual GPA, obtaining a measure (A) of over or under predicted achievement (Achievement Index).

5. The Achievement Index of the Boost participants was compared with the Non-Boost students using a t-test.

6. The Achievement Index of the Boost participants and the Non-Boost students was compared to 1975 academic probation students using a t-test.

7. The Achievement Index of the 1975 freshmen students admitted on academic probation was compared with the Achievement Index of all the 1976 freshmen students admitted on academic probation.

#### Limitations of the Study

This author would caution against generalizations drawn from the findings of this study. It is being done without considering several possible influences upon the participating subjects. Several intervening variables such as age, family background, size of high school, Intelligence Quotient, ability of paraprofessionals, and other factors could not be controlled.

The process by which the subjects were chosen and allowed to enroll at Oklahoma State University should encourage caution against the generalization of the findings to other groups at different institutions.

There was no attempt by the author to influence the college selection and class choice of the subjects. Also, the differing grading techniques of the instructors is not examined by this researcher.



Another limitation of this study was that Project Boost as originally planned did not totally function. Because of the lack of interest on behalf of eligible students, only one of the groups actually took place, programs at the CALL center were not utilized and available tutors were seldom used by the students. The only facet of the program that was carried out as planned was one-to-one counseling.

Finally, an added variable not considered in this study is the fact that Boost participants might have been motivated to be successful and that motivation might have led them to participate in Project Boost.

This study should be examined as an evaluation of a particular program with implications for possible additional research.

## CHAPTER IV

### PROJECT BOOST

Project Boost was a program designed by the Department of Special Services staff at Oklahoma State University in order to facilitate the academic success of entering probationary freshmen. There were a total of 113 such students who were admitted in the fall of 1976.

Project Boost Staff was composed of five part-time paraprofessionals: one half-time director, two half-time workstudy people, one individual who was one-fourth time workstudy and one-fourth time doctoral intern (this writer) and one-half time masters practicum student. The total staff worked approximately 96 hours a week. All but one of the staff were new employees and began work at varying times over the three and one-half weeks between September 1 and September 23, 1976.

The population was divided equally among the five staff members. Each staff member was given the responsibility of contacting, building relationships, contracting with and referring their students in a manner appropriate to each individual.

The original list was provided in August of 1976 by Robin Lacy, Director of Freshman programs. Letters bearing Dr. Lacy's signature were sent to 73 of the 113 names on the list. Letters were not sent

to the remaining 40 because no home address was available. The letter briefly explained the Boost Program and requested that the student contact the staff of Project Boost. Only six of the 73 responded by September 9, 1976. On campus addresses were then gathered by hand from the files of Single Student Housing. For those individuals who were not on file in the housing office, the staff repeatedly called information in an attempt to locate subjects by phone. Notes were left at residence hall mail boxes of all students for whom there were campus addresses. There were 33 individuals with whom no personal contact was made.

The original plan called for the following with each student: building a relationship, explaining the Boost Program, administering and interpreting the Student Developmental Task Inventory and the FIRO-B, and making a written contract with the student outlining his/her expected participation.

During the semester 81 students kept 228 appointments and did not show for 149 appointments. The same 81 students had 180 telephone conversations with staff members and were not home when called on 208 occasions.

Students were referred to the CALL center, Career and Academic Learning Lab. The CALL Center was designed for all Oklahoma State Students that might need career information, or help in reading, writing and study skills.

Occasionally, some Boost participants were referred to the counseling Center at Oklahoma State University when the Boost staff member felt that more in-depth counseling was needed.

Seven workshops were planned for Boost students. Each staff member explained the various workshops to individual students and encouraged them to sign up for those which would be helpful in a particular problem area. The following is an assessment of each workshop:

1. Survival Skills: One student signed up. Preparation was made by staff. Workshop cancelled with agreement that student's counselor would work one-to-one with him around survival.

2. Career Exploration (three session workshop): Thirteen students signed up. Three showed for the first session (taking Strong-Campbell) and two for the second session (interpretation of Strong-Campbell). By prearrangement the third session was cancelled and further exploration was done with the individual counselors.

3. Problem Solving: No one signed up--workshop cancelled.

4. Assertiveness Training: Six signed up. One showed. Workshop rescheduled. One showed again. Workshop cancelled and by agreement with student, he was referred to his counselor for assertion training.

5. Values Clarification: One signed up. Workshop cancelled and student referred to his counselor for work with values.

6. Effective Communication: Two signed up. No one showed. Workshop cancelled.

7. Life Planning: One signed up. Workshop cancelled and by agreement with student referred to his counselor for work on life planning.

### Caring/Sharing Groups

There was no interest in groups among Boost participants. Three groups were planned. Only two individuals indicated an interest in participating. Staff did not really push group participation because of continuing effort to build quality relationships with individual students.

### Exit Interview

It was decided it would be of value to require Boost students to have an exit interview with a member of the Boost staff in case of withdrawal, so an assessment could be made as to whether his/her reason for withdrawal was positive or negative. Arrangements were made by Dr. Henderson, Director of Special Services, with the proper individuals to set up this procedure and an interview form was developed. No students came to the Boost office during their withdrawal process. There were five students who withdrew after this procedure was set up. Breakdown in the procedure was reported to Dr. Henderson.

### Inservice Training

Five inservice workshops were planned for the Boost staff. The subjects of the workshops included one-to-one counseling, contracting in counseling, interviewing techniques, assertive training, workshop design and alcohol abuse. The leaders of these workshops were from the staffs of Special Services, the University Counseling Center, and the Payne County Misdemeanor Program. All of the workshops were attended by all of the Project Boost staff.

Each of the staff members were asked to rate their relationship with each Boost participant and that student's willingness to participate in the Boost Program. The following is a tally of those ratings:

33	No contact
13	Phone contact, no participation
22	Unwilling participation with paraprofessional
26	Interested and some participation
7	No interest, but willing participation
17	Interested and willing participation

Seven of the students who did not participate were residents of Iba Hall, the athletic dormitory. The Boost staff were requested not to contact these individuals by the athletic adviser. Letters explaining the program were sent to them in order to present the option of participation to the residents of this hall.

## CHAPTER V

### PRESENTATION AND ANALYSIS OF DATA

This study was designed to investigate the effect of Project Boost, a program for students at Oklahoma State University. The program was evaluated using first semester GPA and comparing the mean achievement index of the 1976 freshmen on academic probation, who had the opportunity to participate in the program, and the 1975 freshmen admitted on academic probation. This chapter presents the basic data, the testing of the hypotheses, and the related data.

One of the assumptions underlying this study is that the 1975 students on academic probation and the 1976 students on academic probation are similar in academic ability. This is important because the study involves developing a multiple regression equation using data collected from 1975 students and applying that equation to the data collected from the 1976 students. To statistically validate this assumption, several  $t$  tests were computed comparing the means of the two groups on six variables. The data for these comparisons are given in Table I.

Table I contains the means, standard deviations, standard error of the means, and  $t$  test values for the six values measured for the 1975 and 1976 freshmen on academic probation. The variables shown in the table are high school GPA, the ACT Composite Score, and the four ACT subscores, English, Mathematics, Science, and Social Studies. The 1975

TABLE I

A COMPARISON OF MEANS OF SELECTED ACADEMIC  
VARIABLES OF THE 1975 AND 1976 FRESHMEN  
ON ACADEMIC PROBATION

Variables	1975 Freshmen			1976 Freshmen			<u>t</u> test*
	M	SD	S <sub>X</sub>	M	SD	S <sub>X</sub>	
HSGPA <sup>a</sup>	2.10	.28	.03	2.12	.30	.03	.57
ACT							
English	13.77	3.78	.40	13.34	4.10	.39	-.75
Social Studies	11.96	5.25	.56	11.88	4.66	.44	-.13
Natural Science	16.71	3.09	.33	16.02	4.44	.42	-1.24
Mathematics	12.02	4.82	.52	12.08	5.00	.47	.09
Composite	13.82	2.51	.27	13.57	2.84	.27	-.68

<sup>a</sup>HSGPA - High School Grade Point Average

\*Critical value of a two-tailed t (df = 150) at the .05 level is 1.96.



freshmen had a mean of 2.10 and a standard deviation of .28 on the high school GPA while the 1976 freshmen had a mean of 2.12 for high school GPA and a standard deviation of .30. The means of both groups would be translated to a "low C" for a letter grade. The means of the ACT subscores of the 1975 freshmen ranged from 11.96 in social studies to 16.7 in Mathematics, while the standard deviations ranged from 2.51 on the ACT-Composite to 5.25 on the ACT-Social Studies. The 1976 ACT mean subscores ranged from 11.88 on the Social Studies to 16.02 in Natural Science, while the standard deviations ranged from 2.84 on the ACT-Composite to 5.00 on the ACT-Mathematics. The  $t$  test values indicate that there are no significant differences in the two groups. All of the  $t$  values are below the 1.96 need at the .05 level to be significant. The  $t$  values range from .57 for high school GPA to -1.24 for the ACT-Natural Science.

Since Table I indicated that on the selected variables there are no significant differences between the 1975 and 1976 freshmen admitted on academic probation, the next step was to examine the data regarding the 1975 freshmen involved in the study. A multiple regression equation was calculated using the data collected from that group and applied to predict first semester freshman GPA for all students involved in the study. The data for the 1975 freshmen admitted on academic probation at Oklahoma State University appears in Table II.

All of the information that appears in Table II is part of Table I except for the data concerning first semester GPA. Upon examining the data one finds a mean GPA of 1.57 with a standard deviation of .90. Further examination reveals that the mean of the high school GPA is 2.10 with a standard deviation of .28.

TABLE II

III: MEANS AND STANDARD DEVIATIONS OF THE SELECTED  
ACADEMIC VARIABLES OF THE 1975 FRESHMEN  
ON ACADEMIC PROBATION  
N=37

Variables	M	SD
Grade Point Average		
High School	2.10	.28
First Semester Freshmen	1.57	.90
ACT		
English	13.77	3.78
Mathematics	12.02	4.82
Social Studies	11.96	5.25
Natural Science	16.71	3.09
Composite	13.83	2.51

The correlations of the various variables in the regression equation are reported in Table III. The data collected from the freshmen admitted on academic probation in 1975 were used to find the intercorrelations of the variables: high school GPA and the ACT sub-scores English, Mathematics, Social Studies, Natural Science, and Composite, and first semester freshman GPA. Eight of the correlations are significant at the .05 level. Those with significant correlations are: high school GPA and first semester freshman GPA, ACT-English and ACT-Natural Science, ACT-English and ACT-Social Studies, ACT-English and ACT-Composite, ACT-Mathematics and ACT-Composite, ACT-Social

Studies and ACT-Natural Science, ACT-Social Studies and ACT-Composite, and ACT-Natural Science and ACT-Composite. An examination of first semester freshmen GPA's correlation with other variables indicates that only one high school GPA significantly correlates with it ( $r=.23$ ,  $p=.05$ ). The ACT subscores range in correlation with the first semester GPA from a low in ACT-Social Studies of .01 to a high in ACT-Natural Science of .17.

TABLE III

THE INTERCORRELATIONS OF VARIABLES IN THE  
REGRESSION EQUATION FOR PREDICTING  
FIRST SEMESTER FRESHMAN GPA  
N=87

Variables	1	2	3	4	5	6	7
1. HSGPA	1.00	.18	-.02	-.08	.07	.00	.23*
ACT							
2. English		1.00	-.07	.31*	.24*	.52*	.11
3. Math			1.00	.11	.05	.50*	.03
4. Social Studies				1.00	.32*	.74*	.01
5. Natural Science					1.00	.57*	.17
6. Composite						1.00	.11
7. First Semes- ter Fresh- man GPA							1.00

\*Significant at the .05 level. Critical value at the .05 level is .22.

Two equations developed to predict first semester GPA (PFGPA) are examined in this study. The procedure, as stated in Chapter III, was to examine the data from both equations and determine which would be the most efficient in this study. The first equation examined high school GPA and ACT-Composite:

$$\text{PFGPA} = a + b_1\text{HSGPA} + b_2\text{ACT-C}$$

$$\text{PFGPA} = -0.50097486 + 0.736576\text{HSGPA} + 0.03893693\text{ACT-C}$$

The F value for this equation is reported in Table IV. The F value is 2.89. No F table could be found by this researcher showing a significant F value for 2 and 84 degrees of freedom; therefore, 2 and 60 degrees, which yields a more conservative test, was used to determine the significance of F. To be significant with 2 and 60 degrees of freedom an F value must be 2.39 at .10. The F value of 2.89 is significant at the .10 level.

The second equation used high school GPA and ACT subscores; English, Natural Science, Social Studies, and Mathematics.

$$\text{PFGPA} = A + b_1\text{HSGPA} + b_2\text{ACT-E} + b_3\text{ACT-NS} + b_4\text{ACT-M} + b_5\text{ACT-SS}$$

$$\begin{aligned} \text{PFGPA} = & -0.7306112 + -.66031420 \text{HSGPA} + 0.04536782\text{ACT-NS} \\ & + 0.01160504\text{ACT-E} + 0.00757372\text{ACT-SS} + 0.00734929\text{ACT-M} \end{aligned}$$

The F value for this equation is reported in Table V. The F value is 1.42. To be significant at the .10 level the F value must be 1.95, using 5 and 50 degrees of freedom. The F value of 1.42 is not significant at the .10 level.

TABLE IV  
ANALYSIS OF VARIANCE TABLE FOR  
EQUATION ONE

Source	df	Sum of Squares	Mean Square	F Value
Regression	2	4.45	2.22	2.89*
Error	84	64.54	.77	
Corrected Total	86	68.99		

\*Critical value of F (df= 2, 60) at .10 is 2.39.

TABLE V  
ANALYSIS OF VARIANCE TABLE FOR  
EQUATION TWO

Source	df	Sum of Squares	Mean Square	F Value
Regression	5	5.55	1.11	1.42*
Error	81	63.44	.78	
Corrected Total	86	68.99		

\*Critical value of F (df=5, 60) at the .10 level is 1.95.

One aspect of the results of the calculation of multiple regression equation is the determination of the amount of variance accounted for by the variables in the equation. Table VI reports the amount of variance contributed by high school GPA and ACT-Composite. The first

variable, high school GPA, accounts for .0525 of the variance. By adding the second variable, ACT-Composite, the accountable variance is increased to .0645, an increase of .0120.

TABLE VI  
R<sup>2</sup> FOR VARIABLES IN REGRESSION EQUATION ONE

Variables	R <sup>2</sup>	R <sup>2</sup> Increase
HSGPA	.0525	.0525
ACT-Composite	.0645	.0120

The amount of variance accounted for by the variables in equation 2 is reported in Table VII. The first variable, ACT-Natural Science, added .0242, so that the first two variables accounted for .0767 of the variance. When the third variable, ACT-English, was added, .0777 of the variance is accounted for. The fifth variable, ACT-Social Studies, increased the accountable variance to .0795. Finally, ACT-Mathematics increased the accountable variance to .0805.

The low variance accounted for in the two equations may result from the use of a restricted sample. Perrin (1974) conducted a study involving all the freshman students at 22 schools about the same size as Oklahoma State University. The average mean ACT-Composite of those freshmen was 21.60, compared with a mean ACT-Composite in this study of 13.09. In Perrin's study the mean first semester freshman GPA was

2.41 compared to a mean first semester freshman GPA of 1.57 for those involved in this study. Generally, the more restricted the sample the lower the amount of variance accounted for in a regression equation. Perrin's study reports that the variance accounted for in his study ranged from .15 to .56. The variance in this study was .06 and .08 for the two regression equations examined. The comparisons of the samples in the two studies points out the extreme restricted range of the sample of this study. The restricted sample partially explains the low amount of variance accounted for in the equations in this study.

TABLE VII  
R<sup>2</sup> FOR VARIABLES IN REGRESSION EQUATION TWO

Variable	R <sup>2</sup>	R <sup>2</sup> Increase
HSGPA	.0525	.0525
ACT-NS	.0767	.0242
ACT-E	.0777	.0010
ACT-SS	.0795	.0018
ACT-M	.0805	.0010

HSGPA = High School Grade Point Average

ACT-NS = ACT-Natural Science

ACT-E = ACT-English

ACT-SS = ACT-Social Studies

ACT-M = ACT-Mathematics

Although equation one accounts for less variance than does equation two, when the effect of the addition of the five variables on the degrees of freedom of the residual is taken into account, the extra two percent of variance accounted for is not enough for the F value in equation two to be statistically significant. In other words, the predictive power is not high enough to make using five variables worthwhile (Perrin, 1977).

Kerlinger (1973) also states that even though more variance may be accounted for with one equation than another, the equation should be used which has the significant F value. In examining the F values of the two equations in this study, the first equation has an F value of 2.89 and is significant at the .10 level, while the second has an F value of 1.42 and is not significant at the .10. Therefore, the first equation is used in the remainder of this study.

To test the four hypotheses proposed in this study a  $t$  test was computed comparing the mean achievement index of the groups involved in this study. Hypothesis one tests the basic hypothesis of this study that high risk students benefit from a special program designed to meet their needs. Hypothesis one states that the mean achievement index of all freshmen entering in the fall of 1976 on academic probation is greater than the mean achievement index of the freshmen students entering in the fall of 1975 on academic probation. The data related to hypothesis one is reported in Table VIII.

In Table VIII the 1975 freshmen have a mean achievement index of .00 and a standard deviation of .86. The 1976 freshmen have a mean achievement index of .01 and a standard deviation of .82. The  $t$  value comparing these groups is .05. This is below the 1.66 needed at the



.05 level to be significant. This data indicates that the 1975 and the 1976 freshmen admitted on academic probation are not significantly different on the mean achievement index; therefore, the first hypothesis is not accepted.

TABLE VIII

THE MEAN ACHIEVEMENT INDEX, STANDARD DEVIATION,  
AND  $t$  VALUE BETWEEN 1975 AND 1976  
FRESHMEN ON ACADEMIC PROBATION

Group	N	Mean Achievement Index	SD	$t$ Value*
1975	87	.00	.86	.05
1976	113	.01	.82	

\*Critical value of a one tailed  $t$  (df=120) at .05 is 1.66.

Hypothesis two is included in this study to determine if those students in 1976 that were eligible and participated in the Boost program did significantly better academically than the eligible students who did not participate. Hypothesis two states that the mean achievement index of the Boost participants is greater than the mean achievement index of the Non-Boost students. Table IX presents the mean achievement indexes, standard deviations, and  $t$  test value between the Boost participants and the Non-Boost students. The Boost participants have a mean achievement index of .09, with a standard deviation of .81. The Non-Boost students have a mean achievement index of -.15 and a

standard deviation of .84. The  $t$  value of 1.46 comparing the mean achievement of the two groups is below the 1.67 needed to be significant at the .05 level; therefore, hypothesis two is not accepted.

TABLE IX  
THE MEAN ACHIEVEMENT INDEX, STANDARD DEVIATION,  
AND  $t$  VALUE BETWEEN BOOST PARTICIPANTS  
AND NON-BOOST STUDENTS

Group	N	Mean Achievement Index	SD	$t$ Value*
Boost Participants	75	.09	.81	1.46
NonBoost Students	38	-.15	.84	

\*Critical value of a one-tailed  $t$  (df=60) at .05 is 1.67.

Hypothesis three was proposed to determine if there is a significant difference between those students who participated in Boost and the 1975 academic probation students. Hypothesis three states that the mean achievement index of the Boost participants is greater than the mean achievement index of the freshmen students entering in the fall of 1975 on academic probation. Table X presents the mean achievement indexes, standard deviations, and  $t$  test value between the Boost participants and the 1975 freshmen on academic probation. The Boost participants have a mean achievement index of .09 and a standard

deviation of .81, while the 1975 students on academic probation have a mean achievement index of .00 and a standard deviation of .87. The  $t$  value for the comparison of the two groups is .65. The  $t$  value required at the .05 level is 1.66. Table X indicates there is no significant difference between the Boost participants and the 1975 students on academic probation; therefore, hypothesis three is not accepted.

TABLE X

THE MEAN ACHIEVEMENT INDEX, STANDARD DEVIATION,  
 $t$  VALUE BETWEEN BOOST PARTICIPANTS AND  
 1975 FRESHMEN ON ACADEMIC PROBATION

Group	N	Mean Achievement Index	SD	$t$ Value*
Boost Participants	75	.09	.81	.65
1975 Freshmen on Academic Probation	87	.00	.87	

\*Critical value of a one-tailed  $t$  (df=150) at .05 is 1.66.

The fourth hypothesis deals with the difference between the Non-Boost students and the 1975 students on academic probation. This hypothesis is of interest because the academic community at Oklahoma State University became more aware of students on academic probation

during the fall of 1976. Even though the Non-Boost students did not participate in Project Boost, it was felt that with this new awareness the Non-Boost students received more individual help and more effort was put forth in their behalf than in previous years.

The data related to hypothesis four is found in Table XI. The Non-Boost students have a mean achievement index of .00 and a standard deviation of .87. The  $t$  value between these two groups is  $-.92$ , which is below the 1.66 needed to be significant at the .05 level. This indicates that hypothesis four stating that the Non-Boost students have a higher mean achievement index than the 1975 freshmen on academic probation cannot be accepted.

TABLE XI

THE MEAN ACHIEVEMENT INDEX, STANDARD DEVIATION,  
AND  $t$  VALUE BETWEEN NON-BOOST STUDENTS AND  
1975 FRESHMEN ON ACADEMIC PROBATION

Group	N	Mean Achievement Index	SD	$t$ Value*
Non-Boost Students	38	-.15	.84	
1975 Students on Academic Probation	87	.00	.87	-.92

\*Critical value of one-tailed  $t$  (df=120) at .05 is 1.66.

Four hypotheses are examined in Chapter V of this study. The first stated that the mean achievement index of the 1976 freshmen on academic probation is greater than the mean achievement index of the 1975 freshmen on academic probation. The  $t$  value comparing the mean achievement indexes was .05. This is below the 1.66 needed at the .05 level of significance to be accepted. Hypothesis two states that the Boost Participants' mean achievement index would be greater than the Non-Boost students. The  $t$  value for this comparison is 1.46. Again, this is below the 1.67 needed at the .05 level of significance, so hypothesis two is not accepted. Hypothesis three states that the mean achievement index of the Boost participants is greater than that of the 1975 freshmen on academic probation. The  $t$  value for this comparison is .65. It is also below the 1.66 needed to be significant at the .05 level. And finally, hypothesis four states that the Non-Boost students' mean achievement is greater than the 1975 freshmen on academic probation. The  $t$  value for this comparison is .92 and cannot be accepted at the .05 level of significance. There appears to be no significant difference between those students that had the experience of Project Boost and those students that did not have that experience. The possible reasons for this lack of significant difference will be discussed in Chapter VI.

## CHAPTER VI

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine if a program designed for freshmen on academic probation could assist these students in becoming academically successful.

#### Summary

The study involved 87 freshmen who entered Oklahoma State University in the fall of 1975 on academic probation and 113 freshmen also on academic probation that entered the same university in the fall of 1976.

The 1976 students involved in the study had the opportunity to participate in Project Boost, a program designed to meet their particular needs. Seventy-five agreed to participate and thirty-eight did not.

The primary emphasis of Project Boost was one-to-one counseling. An effort was made by members of the Project Boost staff to contact each student and establish a relationship with that student. Project Boost was involved in the academic life of the students by providing information about tutors and encouraging students to attend sessions on study skills at the CALL Center. The CALL Center is located on the campus at Oklahoma State University and has programs for all

students. CALL stands for Career and Academic Learning Lab. Career information was available and also programs emphasizing reading, writing and study skills.

Project Boost also offered special groups to eligible freshmen, such as career choice workshops, assertive training and life planning.

The following data were collected on all freshmen academic probation students entering in the falls of 1975 and 1976: High School GPA, ACT-English, ACT-Mathematics, ACT-Social Studies, ACT-Natural Science, ACT-Composite and first semester freshman GPA.

A regression equation was computed using the 1975 group. It was determined that the high school GPA with ACT-Composite combined to be the best predictor of first semester freshman GPA.

The regression equation was used to predict the first semester freshman GPA for each freshman entering Oklahoma State University on academic probation in the years 1975 and 1976. The predicted GPA's were subtracted from the actual GPA's and averaged for each group. This average was called the mean achievement index. By comparing the mean achievement indexes of the groups involved, it was surmised that it could be determined whether Project Boost had any significant affect.

The theoretical basis for this study was that a program designed especially for academic probation students would improve their academic achievement. It was hypothesized that there would emerge a strong relationship between the counseling by paraprofessionals working in the program and the 1976 freshman academic probation student's GPA. This relationship did not appear. Four hypotheses were examined in this study. The first stated that the mean achievement index of all 1976 freshmen on academic probation would be greater than the mean

achievement index of the 1975 freshmen on academic probation. The  $t$  value comparing the mean achievement indexes was .05. This was below the 1.66 needed at the .05 level of significance to be accepted.

Hypothesis two stated that the Boost participants' mean achievement index would be greater than the Non-Boost students. The  $t$  value for this comparison was 1.46. Again this was below the 1.67 needed at the .05 level of significance, so hypothesis two was not accepted.

Hypothesis three stated that the mean achievement index of the Boost participants would be greater than that of the 1975 freshmen on academic probation. The  $t$  value for this comparison was .65. It also was below the 1.66 needed to be significant at the .05 level.

And finally hypothesis four stated that the Non-Boost students would have a greater mean achievement index than the 1975 freshmen on academic probation. The  $t$  value for this comparison was  $-.92$ . This also could not be accepted at the .05 level of significance

### Conclusions

There are several possible explanations for there being no statistical evidence to support the hypotheses of this study. One reason might be the delayed beginning of Project Boost. As stated in Chapter IV, all of the staff reported for work between September 1, 1976 and September 23, 1976. This means that all students eligible for Project Boost were in some cases three weeks into the semester before he/she was contacted.

The core of Project Boost was individual counseling. One possible explanation for the lack of relationship between Project Boost and academic achievement is that GPA might not reflect counseling



effectiveness. Other variables such as change of self concept, occupational goals, or general satisfaction with college might measure counseling more effectively.

Another consideration is that of numbers. In 1975, eighty-five students were on the original list of freshmen academic probation students. In 1976, there were 113. This might suggest that an effort might have been made to be more selective in 1975.

There is also the possibility that the students involved had such poor academic skill that counseling could not be effective in helping the students academically until these skills improved.

Another consideration is that the Boost staff recognized an element of adaptiveness on the part of the Boost participants. Seemingly, many of these students did not want to participate, but felt they should, and therefore actual involvement was minimal. This is confirmed by the fact that eighty-one students did not appear for 149 appointments that they had indicated they wanted.

Another speculation is that the students made poor choices of majors and were therefore involved in courses too difficult, or did not have the background to allow them to be successful.

#### Recommendations

This writer feels that further research is needed in programs for the high risk college student. This should involve several areas of concern.

First, a study using other criteria for evaluation other than grade point average would be in order. Other variables such as change in self concept and occupational goals could be examined.

A study that included emphasis upon academic skills along with counseling needs to be investigated.

Brooks (1973), as pointed out in Chapter II, believes that pre-enrollment academic counseling, with emphasis upon choosing a major and selecting courses, has an effect upon academic success. This writer would recommend more research in this area.

A study involving high risk students that were not accepted at large universities and attended small four year colleges, junior colleges, and vocational schools would be beneficial. It could be that large universities are doing the high risk student a disfavor by admitting him/her. A follow-up study would be in order to determine the feelings and opinions of high risk students following their first semester at a large university.

Appendix D shows that more than two-thirds of the students entering on academic probation the last two years at Oklahoma State University did not succeed in getting off academic probation their first semester. More research is needed to find out what happens to those students who are not successful.

Another study of interest would be one that follows successful high risk students to determine if their success carries over into the following semesters.

As mentioned in Chapter III in discussing the limitations of the study, Project Boost as originally planned did not fully function due to the lack of interest on the part of eligible students. A study might be carried out that has mandatory participation of an entire program as part of being admitted on academic probation.

Who should go to college? This question is prevalent throughout one educational system and has no simple answer. However, with adequate research of various types of programs relating to the high risk student, colleges and universities will have a better chance of providing adequate education for all students that enroll.

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APPENDIXES

APPENDIX A

GENERAL INFORMATION FORM

Student's Name \_\_\_\_\_ Age \_\_\_\_\_

Sex \_\_\_\_\_ Marital Status \_\_\_\_\_

Home Address \_\_\_\_\_ Phone \_\_\_\_\_

Stillwater Address \_\_\_\_\_ Phone \_\_\_\_\_

Number of children in family \_\_\_\_\_

Occupation of Father \_\_\_\_\_

Occupation of Mother \_\_\_\_\_

Educational background of Mother \_\_\_\_\_

Educational background of Father \_\_\_\_\_

Student's college \_\_\_\_\_ Major \_\_\_\_\_

Have you attended any other colleges? \_\_\_\_\_

Name your three favorite subjects in high school \_\_\_\_\_

\_\_\_\_\_

What subjects do you think will offer you the most trouble? \_\_\_\_\_

\_\_\_\_\_

What are the two main reasons for your major selection \_\_\_\_\_

\_\_\_\_\_

Do you feel that you have good study habits and skills? \_\_\_\_\_

What principle problems do you think you'll have this year? \_\_\_\_\_

\_\_\_\_\_

Will you work part-time or full-time this year? \_\_\_\_\_

Have you made a definite career choice? \_\_\_\_\_

What is it? \_\_\_\_\_

What influenced you to make that choice and why? \_\_\_\_\_

Check the areas in which you would like some help or advice, or with which you anticipate some difficulty.

- Study-skills (reading, test-taking, writing, studying)
- Career choice
- Emotional problems
- Personal values
- Physical appearance
- Social life
- Friendships
- Social life
- Home life
- Special academic Advice-ment
- Dating
- Money

Please list below your current class schedule:

APPENDIX B

CONTRACT FOR PROJECT BOOST

PROJECT BOOST  
 Student Union, Room 374  
 Phone: 624-5458

Contract for BOOST Participants

NAME \_\_\_\_\_

The following workshops and activities are available to all BOOST participants. Place a checkmark in the space to the right if you agree to participate.

I. SPECIAL WORKSHOPS

- |                               |                                  |
|-------------------------------|----------------------------------|
| 1. Values Clarification _____ | 5. Effective Communication _____ |
| 2. Assertive Training _____   | 6. Life Planning _____           |
| 3. Career Exploration _____   | 7. Survival Skills _____         |
| 4. Problem Solving _____      |                                  |

II. ACADEMIC SKILL IMPROVEMENT

CALL Center \_\_\_\_\_

III. OTHER ACTIVITIES

- |   |       |
|---|-------|
| 1. On-going and sharing groups                    | _____ |
| 2. Regular meeting with Counselor                 | _____ |
| 3. Regular contact with Counselor<br>by telephone | _____ |

IV. REFERRAL TO: \_\_\_\_\_

FOR: \_\_\_\_\_

- V. I do not wish to be a participant in the workshops and activities of BOOST \_\_\_\_\_

As a BOOST participant, I agree to the above as marked. I understand that this contract can be renegotiated.

\_\_\_\_\_  
 Signature of BOOST Participant

\_\_\_\_\_  
 Signature of Counselor

Office Hours of Counselor:

\_\_\_\_\_  
 Home Phone: \_\_\_\_\_

APPENDIX C

BOOST WITHDRAWAL INTERVIEW FORM

Name \_\_\_\_\_

Future Address \_\_\_\_\_

\_\_\_\_\_

Reason for Withdrawing \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

In what way could the OSU faculty or staff have been of more assistance to you? \_\_\_\_\_

\_\_\_\_\_

Why did you decide to enroll at OSU? \_\_\_\_\_

\_\_\_\_\_

Have you learned anything about yourself by being here at OSU?

\_\_\_\_\_

\_\_\_\_\_

What are your immediate plans? \_\_\_\_\_

\_\_\_\_\_

What are your long range plans? \_\_\_\_\_

\_\_\_\_\_



APPENDIX D

INDIVIDUAL DATA

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem. GPA
A01	2.38	18	16	12	13	15	2.50
A02	2.17	15	18	08	15	14	.92
A03	2.10	14	14	14	16	15	1.75
A04	2.09	09	19	19	22	17	2.07
A05	2.14	15	09	14	17	14	2.50
A06	2.47	14	12	12	17	14	2.00
A07	1.77	11	15	15	20	15	2.00
A08	2.07	10	13	11	14	12	3.00
A09	2.00	11	12	10	17	13	1.40
A10	2.20	16	07	08	16	12	2.10
A11	2.32	19	12	12	23	17	2.27
A12	2.42	09	12	18	19	15	1.50
A13	2.25	12	07	06	11	09	1.90
A14	2.15	19	10	14	15	15	.83
A15	2.10	08	04	12	13	09	.91
A16	2.03	16	18	18	15	17	2.25
A17	3.35	11	16	11	15	13	1.00
A18	1.80	09	11	09	19	12	2.36
A19	2.36	15	11	15	20	15	3.08
A20	1.85	14	14	12	13	13	2.00
A21	2.33	10	05	07	20	11	1.50
A22	2.17	14	20	11	23	17	0.00
A23	2.50	13	03	15	17	12	1.30
A24	2.33	14	15	08	20	14	1.00
A25	1.33	15	09	23	22	17	1.36
A26	2.12	15	19	16	13	16	2.80
A27	1.70	09	12	06	12	10	.50
A28	1.81	13	16	10	17	14	2.40
A29	3.42	18	12	11	23	16	2.50
A30	2.30	14	14	16	25	17	2.66
A31	2.22	15	27	09	15	17	.85
A32	2.41	09	15	10	22	14	3.00
A33	2.38	16	14	10	16	14	1.50

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem. GPA
A34	2.36	19	09	16	15	15	1.30
A35	1.76	13	12	18	15	15	1.20
A36	2.20	14	12	11	17	14	0.00
A37	2.30	14	09	08	15	12	1.00
A38	2.14	11	09	06	16	11	1.30
A39	2.34	21	17	11	19	17	3.25
A40	2.33	10	18	10	23	15	1.75
A41	2.00	20	07	22	14	16	.67
A42	2.41	17	14	12	15	15	1.60
A43	2.41	19	13	11	17	15	1.50
A44	1.90	03	07	03	05	05	2.40
A45	2.10	15	11	20	16	16	1.00
A46	1.86	17	04	23	25	17	1.75
A47	2.20	15	16	24	13	17	2.50
A48	2.18	17	16	11	21	16	1.00
A49	2.18	17	18	15	19	17	2.75
A50	2.17	14	04	07	15	15	1.60
A51	2.11	17	12	14	19	16	2.90
A52	2.20	08	17	13	16	14	1.25
A53	2.40	12	06	06	12	09	1.25
A54	2.20	08	17	13	16	14	2.60
A55	2.49	19	19	14	15	17	.86
A56	2.37	13	15	06	13	12	1.30
A57	1.60	22	04	20	14	15	3.00
A58	2.05	16	17	16	16	16	2.25
A59	2.23	09	10	08	07	09	1.18
A60	2.08	15	13	06	08	11	1.20
A61	1.32	13	10	15	19	14	0.00
A62	2.25	21	11	11	10	13	1.60
A63	2.00	19	06	09	09	11	1.72
A64	2.19	14	14	10	18	14	1.30
A65	2.30	18	13	08	05	11	1.92
A66	2.10	05	07	07	19	10	2.80

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem. GPA
A67	1.80	15	14	07	18	14	1.00
A68	2.40	17	15	10	22	16	.46
A69	2.18	17	10	06	16	12	2.75
A70	2.20	08	06	10	14	10	1.70
B01	2.44	14	13	07	11	11	.25
B02	1.90	18	14	12	23	17	1.80
B03	2.06	09	13	09	09	13	1.47
B04	2.03	08	10	10	11	10	1.47
B05	1.60	10	09	17	21	14	.25
B06	1.88	17	07	11	11	12	3.07
B07	2.47	10	13	18	20	15	1.50
B08	2.20	17	16	15	14	16	0.00
B09	2.17	05	10	06	13	09	1.38
B10	2.08	09	12	12	14	12	2.25
B11	1.80	09	03	07	15	09	.61
B12	2.26	12	06	06	10	09	1.45
B13	1.59	13	02	09	11	09	.86
B14	1.58	13	14	10	15	13	2.00
B15	1.20	03	04	17	16	10	1.80
B16	2.39	12	08	12	19	13	1.70
B17	2.16	05	15	07	13	10	2.10
B18	1.88	16	14	11	22	16	0.00
B19	1.77	09	07	08	12	09	.83
B20	2.43	16	13	15	14	15	1.75
B21	2.00	06	14	05	09	09	1.23
B22	2.21	15	11	12	23	15	0.00
B23	2.00	12	05	15	13	11	1.60
B24	2.00	06	07	08	14	09	2.67
B25	1.74	19	19	14	16	17	.90
B26	2.00	12	11	12	12	11	1.60
B27	2.30	15	15	12	22	16	1.42
B28	2.15	10	05	15	15	11	0.00
B29	2.17	12	06	09	14	10	0.00

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem.GPA
B30	2.00	19	15	10	24	17	2.00
B31	2.00	14	12	12	14	13	2.20
B32	1.82	14	15	12	23	16	.84
B33	1.67	09	18	14	10	13	.56
B34	2.16	11	13	07	12	11	2.45
B35	2.23	10	31	22	23	22	1.50
B36	2.40	15	18	05	15	13	1.75
C01	2.00	17	11	09	15	13	0.00
C02	2.36	10	06	10	16	11	2.25
C03	1.99	21	06	23	17	17	1.60
C04	1.68	11	10	06	18	11	1.50
C05	2.30	17	14	06	15	13	1.00
C06	2.40	22	11	10	17	15	3.29
C07	2.00	14	15	14	21	16	2.00
C08	2.09	20	09	14	23	17	2.29
C09	1.10	14	16	17	14	15	0.00
C10	2.27	15	01	13	17	12	2.60
C11	2.05	17	20	12	17	17	2.33
C12	2.39	10	07	13	12	11	1.27
C13	1.78	12	14	20	21	17	2.42
C14	1.56	09	11	09	12	12	2.00
C15	2.06	16	17	11	22	17	1.62
C16	2.20	11	16	11	19	14	2.33
C17	2.22	13	17	21	18	17	1.60
C18	1.30	13	19	18	17	17	0.00
C19	2.35	18	13	12	13	14	3.00
C20	2.13	16	10	19	19	16	.63
C21	2.30	11	16	08	20	14	2.50
C22	2.30	09	17	16	13	14	0.00
C23	2.10	15	20	15	16	17	1.62
C24	2.20	17	15	03	14	12	2.22
C25	1.86	13	08	11	17	12	0.00
C26	2.35	18	13	17	18	17	0.00

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem.GPA
C27	2.32	17	09	08	17	13	1.72
C28	1.94	08	16	05	13	11	.40
C29	2.21	10	16	12	17	14	1.10
C30	2.42	16	17	08	16	14	2.18
C31	2.19	07	14	05	15	10	1.82
C32	2.05	14	15	10	23	16	1.70
C33	1.77	17	08	13	17	14	0.00
C34	2.30	19	13	12	21	16	1.55
C35	2.00	07	15	21	15	15	1.25
C36	2.27	12	19	09	11	13	2.00
C37	2.20	11	04	05	19	10	.81
C38	2.30	17	94	17	15	13	2.27
C39	1.41	19	08	21	16	16	2.08
C40	1.50	15	19	15	15	17	3.62
C41	2.00	10	17	21	19	17	1.42
C42	2.03	11	16	11	21	15	1.00
C43	1.97	13	15	19	17	16	2.57
C44	2.00	13	08	11	09	10	1.36
C45	1.89	16	13	12	21	16	0.00
C46	2.00	11	07	06	16	10	2.30
C47	2.23	16	12	15	18	15	1.08
C48	2.32	18	17	18	16	17	.33
C49	2.11	14	04	11	15	11	1.33
C50	2.16	13	08	09	13	11	1.30
C51	2.20	08	08	18	14	12	2.00
C52	1.95	15	08	12	20	14	3.00
C53	2.38	16	01	10	23	13	1.90
C54	2.30	11	09	09	12	10	1.00
C55	2.23	14	15	07	14	13	1.33
C56	2.14	17	09	10	16	13	.81
C57	2.10	16	16	08	16	14	1.58
C58	2.00	19	04	23	20	17	1.00
C59	2.60	20	14	20	20	16	2.69

No.	H.S. GPA	ACT E	ACT M	ACT SS	ACT NS	ACT C	Fresh. 1st Sem. GPA
C60	2.43	10	15	08	23	14	2.15
C61	2.20	10	08	09	17	11	1.15
C62	2.36	18	13	10	13	14	1.00
C63	2.33	09	14	08	14	11	2.90
C64	2.30	11	17	19	17	16	.88
C65	2.20	06	14	05	14	10	1.69
C66	2.13	12	16	20	19	17	2.29
C67	2.19	14	17	12	18	15	2.00
C68	2.42	17	06	13	18	14	2.17
C69	2.11	18	05	12	15	13	1.45
C70	2.03	15	20	15	15	17	0.00
C71	2.22	17	15	07	14	13	.50
C72	1.73	10	14	03	13	11	.91
C73	2.08	14	04	10	19	12	1.50
C74	2.39	18	19	06	16	15	2.33
C75	1.10	08	05	01	14	07	1.40
C76	2.12	12	06	03	11	08	1.33
C77	2.20	08	12	09	19	12	.33
C78	2.00	17	09	15	17	15	2.17
C79	1.75	12	10	12	17	13	0.00
C80	2.21	13	14	10	21	17	2.73
C81	2.24	05	05	05	13	10	1.00
C82	2.37	15	15	12	16	15	3.18
C83	2.24	12	08	04	14	10	1.66
C84	1.94	11	15	11	15	13	2.40
C85	2.36	15	17	12	19	16	2.75
C86	2.38	21	08	21	19	17	1.66
C87	1.81	11	15	20	23	17	2.58

VITA<sup>2</sup>

John G. Robinson

Candidate for the Degree of

Doctor of Education

Thesis: AN EVALUATION OF PROJECT BOOST, A PROGRAM FOR 1976 FIRST SEMESTER FRESHMEN ON ACADEMIC PROBATION AT OKLAHOMA STATE UNIVERSITY

Major Field: Student Personnel and Guidance

Biographical:

Personal Data: Born in Bucklin, Kansas, October 23, 1935, the son of John and Lois Robinson.

Education: Graduated from Garden City High School, Garden City, Kansas, in 1954; received an Associate of Arts degree from Garden City Junior College, Garden City, Kansas, in 1956; received a Bachelor of Arts degree from Southwestern College of Winfield, Kansas, in 1958 with a major in Secondary Education; received a Masters of Science degree from Emporia State University in 1961 in Secondary Education with an emphasis in remedial reading; received a Masters of Education degree from Wichita State University in 1971 in Student Personnel and Guidance; completed the requirements for the Doctor of Education degree at Oklahoma State University in May, 1978. Supervised internship in counseling center at Oklahoma State University, 1976-77.

Professional Experience: Teacher of English, social studies, and remedial reading in junior high and adult education in the Wichita, Kansas public schools, 1958-75; Counselor and assistant administrator of a program for students on academic probation at Oklahoma State University, 1976-77.

Professional Organizations: National Educational Association, American Personnel and Guidance Association.