

THE RELATIONSHIP BETWEEN STUDENT CHARACTERISTICS  
AND COLLEGIATE TERMINATION OF VOCATIONAL  
BUSINESS CERTIFICATE HOLDERS

By

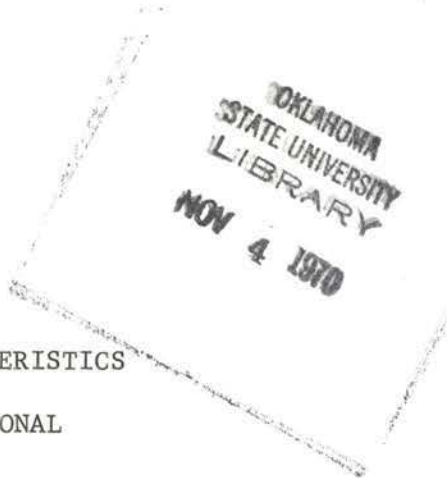
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## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION. . . . .	1
Nature of the Problem. . . . .	2
Specific Statement of the Problem. . . . .	3
Variables. . . . .	4
Hypotheses. . . . .	5
Terminology. . . . .	6
Limitations. . . . .	7
II. REVIEW OF RELATED LITERATURE. . . . .	8
General Student Characteristics. . . . .	8
Characteristics of Technical Students. . . . .	28
Characteristics of Business Students. . . . .	29
Studies of Oklahoma Business Students. . . . .	34
Post-High School Business Programs. . . . .	35
III. METHODOLOGY AND DESIGN. . . . .	53
Institutions Included in the Study. . . . .	53
Students Included in the Study. . . . .	54
Data Collection. . . . .	56
Data Analysis and Statistical Procedure. . . . .	58
Student Characteristics. . . . .	60
IV. PRESENTATION AND ANALYSIS OF DATA. . . . .	63
Parametric Characteristics of the Certificate Holders. . . . .	70
Comparison of Responding and Non-Responding Students. . . . .	75
Comparison of Students Who Terminated and Students Who Continued. . . . .	94
The Non-Parametric Characteristics of the Respondents. . . . .	118
Non-Parametric Statistical Analysis of Student Characteristics for Those Who Terminated and Those Who Continued. . . . .	129
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS. . . . .	172
Summary by Institutions. . . . .	173

Chapter	Page
Summaries by Year . . . . .	177
Summary of Total Student Characteristics . . . . .	179
Conclusions . . . . .	180
Recommendations . . . . .	182
 A SELECTED BIBLIOGRAPHY . . . . .	 183
APPENDIX A . . . . .	198
APPENDIX B . . . . .	207
APPENDIX C . . . . .	209
APPENDIX D . . . . .	211
APPENDIX E . . . . .	213
APPENDIX F . . . . .	215
APPENDIX G . . . . .	224
APPENDIX H . . . . .	228
APPENDIX I . . . . .	230
APPENDIX J . . . . .	232
APPENDIX K . . . . .	234
APPENDIX L . . . . .	237
APPENDIX M . . . . .	239
APPENDIX N . . . . .	241

LIST OF TABLES

Table	Page
I. Additional Clerical-Sales Manpower Requirements for Oklahoma . . . . .	37
II. Additional Clerical Manpower Requirements for Oklahoma . . . . .	38
III. Fall, 1966 Proprietary Business School Enrollments in Oklahoma . . . . .	40
IV. Enrollments of Proprietary Business Schools in Oklahoma for the Years 1965 Through 1967. . . . .	40
V. Adult Business Classes -- Tulsa Public Schools . . . . .	41
VI. Federally Financed Business Programs . . . . .	42
VII. Types of Business Training Available Under MDTA 1966-1967. . . . .	43
VIII. Reimbursed Programs for Adult Business Enrollments . . . . .	44
IX. Fall, 1966 Freshmen and Sophomore Business Enrollment in Oklahoma Institutions of Higher Education . . . . .	45
X. Oklahoma Institutions Awarding Associate Degrees and Vocational Certificates (1960-1967). . . . .	48
XI. Fall, 1959-1966 Freshmen and Sophomore Business Enrollment in Oklahoma Institutions of Higher Education. . . . .	49
XII. Oklahoma Institutions During the Academic Year 1965-1966 (Lower Level Only) . . . . .	50
XIII. Oklahoma Institutions During the Academic Year 1965-1966 (Lower Level Only) . . . . .	51
XIV. Total Students in the Study. . . . .	55
XV. Responses to the Questionnaire . . . . .	58

Table	Page
XVI. Mean Student Characteristics of the Total Students by Institution . . . . .	64
XVII. Mean Student Characteristics of the Total Students by Type of Institution . . . . .	66
XVIII. Mean Student Characteristics of the Total Students by Year. . . . .	68
XIX. Mean Student Characteristics for Those Who Responded by Institution . . . . .	76
XX. Mean Student Characteristics for Those Who Did Not Respond by Institution . . . . .	78
XXI. Mean Student Characteristics for Those Who Responded by Type of Institution . . . . .	80
XXII. Mean Student Characteristics for Those Who Did Not Respond by Type of Institution . . . . .	82
XXIII. Mean Student Characteristics for Those Who Responded by Year. . . . .	84
XXIV. Mean Student Characteristics for Those Who Did Not Respond by Year. . . . .	86
XXV. Mean Student Characteristics for Those Who Terminated by Institution . . . . .	95
XXVI. Mean Student Characteristics for Those Who Continued by Institution . . . . .	97
XXVII. Mean Student Characteristics for Those Who Terminated by Type of Institution . . . . .	99
XXVIII. Mean Student Characteristics for Those Who Continued by Type of Institution . . . . .	101
XXIX. Mean Student Characteristics for Those Who Terminated by Year. . . . .	103
XXX. Mean Student Characteristics for Those Who Continued by Year. . . . .	105
XXXI. Percentage of Mothers Who Were Housewives by Institution and Year . . . . .	133
XXXII. Level of Income or Wealth. . . . .	134



Table	Page
XXXIII. Rank of Reasons for Business Students Leaving College After Receiving Certificate by Institution. . . . .	137
XXXIV. Rank of Reasons for Business Students Leaving College After Receiving Certificate by Years . . . . .	138
XXXV. Percentage of Students Not Considering Continuing Education but Would Consider if Money Had Been Available. . . . .	140
XXXVI. Rank of Persons Who Most Influenced Students to Attend College to Receive the Certificate by Institutions . . . . .	142
XXXVII. Rank of Persons Who Influenced Students to Attend College to Receive the Certificate by Year . . . . .	144
XXXVIII. Rating of Adequacy of Certificate Programs . . . . .	146
XXXIX. Rating of Confidence the Respondents Had in the Training of the Certificate Program. . . . .	147
XL. Rating of Chances for Obtaining Employment . . . . .	149
XLI. Rating of Necessity of Certificate Program for Employment . . . . .	151
XLII. Rating of Interest in Office Occupations . . . . .	152
XLIII. State of Initial Employment or Residence . . . . .	153
XLIV. Mean Months of Employment. . . . .	155
XLV. Rank of Initial Employment by Institution. . . . .	157
XLVI. Rank of Initial Employment by Year . . . . .	158
XLVII. State of Present Employment or Residence . . . . .	159
XLVIII. Rank of Present Employment by Institution. . . . .	161
XLIX. Rank of Present Employment by Year . . . . .	162
L. Rank of Respondents' Plans for the Coming Year . . . . .	164
LI. Rank of Respondents' Future Plans. . . . .	167
LII. Number of Institutions Attended After Receipt of the Certificate. . . . .	169

Table	Page
LIII. Rank of Collegiate Major for Students Who Continued. . . . .	171
LIV. Analysis of Variance of Student Characteristics by Institution. . . . .	229
LV. Analysis of Variance of Student Characteristics by Year . . . . .	231
LVI. Edwards' Test for Homogeneity of Variance for Responding and Non-Responding Students . . . . .	233
LVII. Analysis of Variance of Student Characteristics by Institution. . . . .	235
LVIII. Analysis of Variance of Student Characteristics by Year . . . . .	238
LIX. Edwards' Test for Homogeneity of Variance for Those Who Continued and for Those Who Terminated . . . . .	240
LX. Chi-Square Analysis of Student Responses by Insti- tutions and Years. . . . .	242

## CHAPTER I

### INTRODUCTION

During the last decade national employment in office occupations was expected to increase by twenty-seven percent, or by nearly three million new jobs according to Venn (1). Business education tended to have the greatest enrollment of the occupational programs in the two-year colleges. Higher levels of specialized education were needed for entry employment in the business and office occupational areas. Venn (1) suggested that secretaries who produced quality work were in short supply throughout the nation.

A study by the Oklahoma Employment Security Commission (2) indicated that one of the major occupational groups in Oklahoma in 1963 was the office occupations. The study indicated that eighteen percent of the Oklahoma labor force was employed in office occupations. Projected employment for 1975 indicated that office workers would remain at eighteen percent of the Oklahoma labor force. The Oklahoma Employment Security Commission (2) indicated that post-high school programs such as private business schools or college business educational experiences would be the minimum educational level of business training required by employers for almost twenty-eight percent of the approximately fifty-nine thousand additional office personnel needed by 1975.

## Nature of the Problem

Numerous studies have been made of the quantitative and qualitative aspects of demand for business and office employees. Before the Vocational Education Act of 1963, little attention had been focused on the supply and supply sources of vocational business and office employees. Since the Vocational Education Act of 1963, much attention has been focused on the business and office occupational students and programs of the high schools.

The programs offered by colleges and universities in Oklahoma tend to have one common characteristic -- all programs have the vocational business and office student completing a certificate or an associate degree program below the baccalaureate level. Business and office students require early identification in their collegiate experience. Furthermore the curriculum must be different for those students because of their abbreviated collegiate program. The problem of student identification, proper advisement, and adequate programs to meet student and labor market needs will necessarily create additional burdens upon colleges and universities.

Research is needed to determine characteristics of the vocational business and office students who pursue post-high school programs. An example of needed research in follow-up studies of vocational education was given by Sharp and Krasnegor. Writing for the Bureau of Social Science Research, Inc., through a grant from the U. S. Office of Education, Sharp and Krasnegor (3, pp. 15, 18) indicate:

At the post-secondary level there have been very few studies. . . . At this level research coverage is particularly weak. We know practically nothing about the students or graduates of post-secondary or supplementary vocational

education. A major gap in this area is lack of knowledge of the junior college student enrolled in occupational training. . . .

Beyond studies of junior college students, very little research of any kind has been conducted which concerned itself with adults who have been enrolled in vocational education programs. . . .

Perhaps the most important advance in vocational education follow-up research is the concern with the total system involved in training a person for an occupation -- the training process, the characteristics of the graduate, the employment situation. . . .

The growing field of office occupations, which has only recently become a 'vocational' training area in terms of federal involvement, should, of course, be included in future studies.

#### Specific Statement of the Problem

The primary purpose of this study was to determine those student characteristics that predict the collegiate termination, before receiving a baccalaureate degree, of students who received vocational business and office certificates from the public institutions of higher learning in Oklahoma.

The secondary purposes of this study were (1) the determination of the present status of post-high school business certificate programs in institutions of higher learning in Oklahoma; (2) the determination of business and business certificate enrollment patterns in these colleges and universities; and (3) the determination of the number of business certificate graduates in institutions of higher learning in Oklahoma who were awarded business certificates or associate degrees since 1963.

## Variables

Data on variables were collected from both institutions and individuals. A division was made based on whether variables were classified as parametric or non-parametric.

Parametric variables considered include:

1. Age
2. ACT Standard Scores and Percentiles
3. Miles from high school from which graduated to college
4. High School GPA by subject area
5. Semester of high school by subject area
6. Total GPA for academic credits
7. Total high school academic semester
8. Initial college GPA
9. College GPA at time of receipt of certificate
10. GPA for previous major before transfer to certificate program
11. Size of high school from which graduated
12. Length of employment (initial employment and current employment)

Non-parametric variables considered include:

1. Education of father
2. Education of mother
3. Education of brother
4. Education of sister
5. Occupation of parents
6. Economic status

7. Marital status
8. Influence received by certificate students
9. Confidence in certificate program
10. Student expectations concerning employment
11. Student attendance and interest in institutional programs
12. Type of employment
13. Student plans
14. Majors pursued by students who continued

Potential intervening variables include:

1. Motivational factors
2. Attitude of student toward baccalaureate degree

#### Hypotheses

Tests of statistical significance for parametric data utilized the analysis of variance procedure. The statistical significance for non-parametric data utilized the chi-square procedure. The research questions utilizing these statistical techniques are stated below.

1. There is no significant difference at the .05 level of confidence between means of parametric data of students who responded to the questionnaire and those who did not respond to the questionnaire when analysis of variance statistical procedures are applied.

2. There is no significant difference at the .05 level of confidence between means of parametric data of students who terminated their collegiate education and students who continued their collegiate education after receiving the business certificate when analysis of variance statistical procedures are applied.

3. There is no significant difference at the .05 level of confidence between student characteristics of those who terminated their collegiate education and students who continued their collegiate education after receiving the business certificate when chi-square statistical procedures are applied.

The above analyses were applied to student variables by institution, type of institution, year, and total.

### Terminology

Certain terminology utilized within this dissertation warrants explicit definition.

Vocational Business and Office Education: Training or retraining which if given in colleges as part of a program designed to fit individuals for gainful employment in business and office occupations.

Vocational Business Certificate: Written recognition granted to business students upon satisfactorily completing the requirements of a course of instruction below the baccalaureate degree level. Hereafter referred to as the certificate.

Business and Office Occupations: Those activities performed by individuals in public and/or private enterprise which are related to the facilitating function of the office.

Students Who Terminated: Students who receive a certificate upon completion of a one or two year collegiate business program and do not continue their collegiate education.

Students Who Continued: Students who receive a certificate upon completion of a one or two year collegiate business program and continue their collegiate education toward a baccalaureate degree.



High School Grade Point Average: The high school grade point average was computed for all grades received for the academic areas shown in Chapter III. The averages were derived from the semester grades received for the last four years of high school (grades 9 - 12). High school grade point averages are hereafter referred to as HSGPA.

Analysis of Variances: The analysis of variance technique was used to test for statistical differences of the parametric student characteristics. Analysis of variance is hereafter referred to as AOV.

Grade Point Averages: The grade point averages were computed for the students' initial collegiate semester. In addition, the grade point averages were computed for all college courses taken through the semester the business certificate was received. The grade point averages are hereafter referred to as GPA.

American College Testing Program: The American College Testing battery is designed to measure the ability of a student to perform those intellectual tasks he is likely to face in his college studies. The American College Testing program is hereafter referred to as ACT.

#### Limitations

The study was limited to those students who received business certificates from 1963 to 1967 from the state-supported institutions of higher learning in Oklahoma. Inferences to all students who complete such certificates in the future at the institutions in the study should be limited to students with similar characteristics. Furthermore, the study is limited in that variables of motivation and attitudes of students toward a baccalaureate degree were not controlled.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

The purpose of this study was to determine those student characteristics that predict collegiate termination for certificate students. A review of the literature revealed many studies on the characteristics of college students. Few studies have examined business student characteristics. Even fewer studies were discovered on certificate student characteristics.

#### General Student Characteristics

Father's Education. Studies have shown that the education level of the father is an important variable in the determination of attendance and persistence in college. Berdie (4) found that entering students' fathers had more education. Raines (5) found that one-third of the fathers of incoming junior college students had more than a high school education, compared to approximately one-half of the fathers of incoming freshmen in colleges and universities. Wetzler (6) concluded that students who graduated from college had better educated fathers. Hood (7) discovered differences in the level of parents' education attained by parents of students in various institutions in Minnesota.

Watson (8) concluded that the father's educational level was related to academic success. Barger and Hall (9) found that high-ability girls achieved in a direct relationship to their father's education.

Berdie and Hood (10) used the father's education as a predictor variable in computing multiple correlation coefficients on plans to attend college. Gribbons and Lohnes (11) studied variables of the father's and mother's education, socioeconomic level, and educational aspirations in the Boston area. The study concluded that students from a higher socioeconomic level aspired to college to a greater extent than students in a lower socioeconomic status. Furthermore, some evidence was found of upward socioeconomic mobility through education.

Watson (8) found by studying students at the State University of Iowa that the father's educational level was correlated with aptitude and with grade point average. McDill and Coleman (12) suggested that the father's education was one of the most important factors associated with college plans. Eckland (13), Dole (14), and Chase (15) indicated that education of the father was a significant factor associated with college dropouts. Little (16) found that technical students' fathers and mothers both had more education than parents of students who terminated their education after high school, but less than parents of college students. Astin (17) found that characteristics such as father's education were related to later educational achievement.

Mother's Education. Young (18), reporting on the results of surveys, discovered that the level of the mother's education was related to college attendance. Raines (5) found that the level of the mother's education was highest for university students, followed by college students, and then by junior college students. Krauss (19) noted that the mother's education affects college aspirations when it differs from the father's educational level. Trent and Medsker (20) found that the mother's education was of equal importance with father's occupation.

They also found that men and women enrolled in equal proportions if their mothers were college graduates.

Eckland (13) found that the educational level of the mother was significant when a comparison is made between dropouts and those who stay in college. Chase (15) discovered that mothers with less than a high school education were over-represented among student dropouts. Hood (7) discovered that differences in the father's educational level were greater than differences in the mother's educational level. Berdie (4) revealed that education of the parents was related to after-high-school plans of high-ability youth. Nolte (21) found that college attendance was not closely associated with social class nor with differences in parents' education.

Education of Brother and Sister. Berdie (4) indicated that there was a direct relationship between the amount of education a child has had or is planning and the amount of education obtained by his siblings. Chase (15) found that the number of younger siblings may influence dropouts. The study revealed that dropouts were often an only child or the youngest child. Weitz and Wilkinson (22) found that the number of siblings was related to academic success. Panos and Astin (23) found an over-representation of only children and first-born children among entering freshmen.

Parental Occupations. Research tends to show that socioeconomic status is usually related to academic performance and collegiate persistence. Among the techniques utilized in reliability studies is a common classification of occupation by Roe. This technique was used by Lunneborg and Lunneborg (24) to predict academic achievement. The occupational background of the father is considered one of the best

indices of socioeconomic status. Hood (7) used seven categories to describe occupations -- namely professional, own or manages business, office work, sales, owns or manages farm, skilled tradesman, and factory worker. Hood (7) also found that socioeconomic factors were not good predictors of academic achievement in college.

Henry (25) reviewed fourteen studies on paternal occupation. He found that several studies noted that children of professional fathers did better in college than children of fathers of a lower category occupation. Other investigators found no relationship between occupation and success in college. Banducci (26) studied the effect of employment of the mother upon aspirations, achievement, and expectations of children. The study revealed that children of working mothers in lower socioeconomic levels expected to complete more schooling than did children of non-working mothers.

Lunneborg and Lunneborg (27) found that factors contributing to collegiate success were the father's and mother's education and the father's occupational type and level. A study by Stout (28) of social class and educational aspirations of high-school seniors indicated that social class is not a good predictor of the intent to enter college if students have similar social class backgrounds. Data from a study by Joiner, Erickson, and Brookover (29) on socioeconomic status and perceived expectation of high school males revealed that the parents' socioeconomic status was related to the students' educational plans. Furthermore, changes in socioeconomic status did not change educational plans.

Mowsesian, Heath, and Rothney (30) studied the occupational preferences of superior students and the relationship to their fathers'

occupations. The study concluded that most of the students preferred professional occupations. Clark (31) studied elementary students' occupational preference and perception as influenced by sex and racial class. The study revealed that a greater preference for white collar and professional occupations was shown by lower-class girls than by middle-class girls. A majority of both middle and lower-class girls wanted to become either teachers or nurses.

Hood (32) found that the educational and cultural status of the family was more highly related to college than was economic status. Hill (33), studying attrition among freshmen students at the University of Texas, found that the father's occupation was not related to either graduation or withdrawal. Washburne (34) suggested that socioeconomic status probably determined the opportunity to attend school, but that such status was not related to academic performance. Cooley and Becker (35) found in a nation-wide study of junior college students that for both males and females, junior college students tended to be like non-college students in terms of ability, and like college students in terms of socioeconomic factors.

Berdie and Hood (10) and Astin (17) utilized the father's occupation as a predictor variable in developing multiple correlation of student characteristics. Werts (36) found an association between the types of occupations chosen by sons and the fathers' occupations. Barger and Hall (9) found that when dropouts were controlled by ability, most socioeconomic variables were not significant. The only significant variable was the parents' marital status. Krauss (19) noted that when fathers had completed high school, occupational status was a factor that influenced student collegiate attendance, while the lack of

a high school education by the fathers had little effect on collegiate plans regardless of occupational status.

Trent and Medsker (20) found that a much greater percentage of the high school graduates from a high socioeconomic level went to college and graduated than did students whose fathers were in low socioeconomic levels. Differences were also noted in the socioeconomic level of parents of students in private and public colleges and universities as compared with parents of junior college students. Trent and Medsker (20) also used Roe's level of occupations to note differences in collegiate withdrawal and socioeconomic status. Bienenstok (37) found that occupational status had an effect on collegiate education because students of lower socioeconomic status were more likely to attend junior colleges or non-degree-granting institutions.

Chase (15) noted that the father's occupation was not significant when comparing dropouts and those who continued their education. Sewell and Shah (38) discovered for Wisconsin females that the effect of socioeconomic status on college plans, college attendance, and graduation was greater than the intelligence effect. Waller (39), Sexton (40), and Hiest (41) reviewed the literature and found significant differences in the effect of the fathers' and mothers' occupational levels upon achievement, attrition, and persistence. Nolte (21) suggested a relationship between college attendance and occupational status. The study found that many farm youths were going to college as a means of finding employment.

Income and Wealth. Financial difficulties were noted as one of the major reasons for withdrawal from college. Hood (7) noted that high school senior girls expected their parents to pay more of their

college expenses than did boys. Raines (5) studied ACT reports and found that four-year college and university students' family incomes were higher than junior college students' family incomes. It was also noted that college and university students received more parental support than junior college students. In addition, more junior college students were employed. McQuary (42) reported that over-achievers had lower socioeconomic status. Little (43) found that financial difficulty was the second most important reason for withdrawal.

Sewell and Shah (38) reported that socioeconomic status was an important factor in determining persistence in higher education. Young (18) found that many surveys indicated that the economic position of the family was positively associated with educational intentions. Henry (44) found that, although financial ability of the family was related to college attendance, financial power had to be considered with other variables such as occupational level, parents' education, and high school achievement. Perception of family income might be an important factor in collegiate plans according to Berdie (4). The parents' ability to pay for college and the level of annual income of the parents were important criteria in a study by Eckland (13).

Gottlieb (45) and Smith and Penny (46) discovered that persistence was not as dependent on socioeconomic status as other factors. Trent and Medsker (20) also noted that socioeconomic status is more associated with students entering college rather than their remaining there. Summerskill (47) discovered that financial difficulty was an important cause of college attrition. Barger and Hall (9) revealed that the socioeconomic variable of family income was significant only when ability levels and grade-achievement distributions were made. Iffert (48)



found that the median annual income of parents of non-graduating students was significantly less than that of parents of graduating students.

Marriage. Marriage was the most important reason given for leaving college by those who never graduate, according to a study by Eckland (13). Holmes (49) found that marriage was probably the only clear-cut reason for withdrawal from college. Faunce (50) discovered that marriage and factors related to marriage (pregnancy and aid to husband) were responsible for more than 45 percent of academically-gifted women leaving college. Berdie (4) reported that plans for marriage were a limiting factor in educational planning after high school.

The U. S. Department of Labor (51) reported that labor force participation of women was determined by their marital status. Labor force rates were lower for married women than for single women. Labor force participation by women tended to increase as years of school completed increased. Female college graduates tend to marry later than other women, according to Havemann and West (52).

Douvan and Kaye (53) found that girls who did not plan to go to college were more explicit in their desire to marry. More than 62 percent of non-college females had married, while only 15 percent of college women were married according to a study by Trent and Medsker (20). Banzat, in Dressel's (54) Evaluation in the Basic College, found in a study at Michigan State that 40 percent of the women who left college gave marriage as the reason. Painter (55) found that for girls, marriage tended to curtail collegiate education.

Parental Influence. Berdie (56) found that family background helped determine collegiate attendance. Berdie (4) also found that

parents' feelings about college influenced college attendance. Kahl (57) found that parental pressure was an important factor in collegiate attendance. Brookover, Erickson, and Joiner (58) indicated that parents from lower socioeconomic status want their children to go to college, and middle-class parents expect their children to go to college. Slocum (59) discovered that the background of the family, including parental interest, was influential in withdrawal and persistence.

Sexton's (40) review of research reveals that parents do not need to have had higher education themselves for their children to pursue a collegiate education. Anderson and others (60) have discovered that parents were the major group responsible for the formation of the educational and occupational aspirations of youth. In data reviewed by Krauss (19), he noted that the working class mother may attempt to realize her aspirations through her children by encouraging them to develop middle-class interests and objectives. Trent and Medsker (20) and Summerskill (47) noted that family values were related to persistence.

Students' Reasons for Terminating. The reasons for student withdrawal from colleges or universities have been investigated in numerous studies. Summerskill (47) reviewed the literature and found that factors associated with withdrawal could be classified as academic, motivational, emotional, and financial. Mohs (61) found that financial difficulties and marriage were primary reasons for terminating. Young (18) found from a review of surveys that financial, academic (poor grades), and marriage were classified as important reasons, while family attitude and value of education were of secondary importance.

Iffert (48) noted that contributing factors to attrition were low grades, jobs, marriage, unhappiness, financial troubles, military, and illness. A study of freshmen withdrawal at the University of New Mexico, by Goetz and Leach (62), showed that lack of interest in studies, employment, marriage, and family financial problems were factors of attrition. Jex and Merrill (63) found at the University of Utah that reasons for terminating from college given by females were marriage, employment, and financial difficulties. Holmes (49) found that attendance at another college or university, marriage, and financial reasons were primary reasons for withdrawal.

Eckland (13) ranked reasons for leaving college given by those who never graduated: marriage, lack of interest, job opportunities, illness, financial difficulties, housing problems, academic difficulties, personal adjustment, military service, and lack of goals. In a study of academically-gifted women by Faunce (50), reasons for withdrawal given by more than ten percent of the respondents were marriage, insufficient finances, no major (or dissatisfaction with major), work (or good job opportunity), and personal problems (or maturity). Chase (15) found that ranked reasons for non-persistence were adjustment to college, uncertainty of vocational goals, and health, followed by finances, grades, and inappropriate curriculum. Females in the study ranked marriage as the most important factor.

Waller (39) noted that academic dismissal, financial difficulties, and motivational problems were important reasons listed in the review of literature. Trent and Medsker (20) found that anticipated reasons for female withdrawal were not significant for academic, financial, or circumstantial (including marriage) reasons. A review of literature

by Cope (64) noted that many dropout and attrition studies suffered from over-simplification, lacked strength of association of variables, and were not properly defined. Of particular concern was the data available on students who voluntarily withdrew and the lack of sufficient reasons for such withdrawal. Marriage and finances were reasons for termination, according to Nolte (21). Girls stated the important reasons for not going to college were lack of finances, marriage, dislike for school, and work, according to a study by Greenshields (65).

Borrow and Repay for Further Education. Young (18) discovered that 35 percent of the students surveyed, who had no further plans for an education, would change their plans if more money were available.

Person Who Most Influenced Student. Young (18) determined that a relationship exists between parental attitude perceived by youth and their educational aspirations. McDill and Coleman (12) noted influences from peer groups and family background. Dole (14) found that family, friends, and peers encouraged students to persist in their education. Other influential people were teachers, counselors, and community leaders. The kind of employment desired was also a reason for persistence. Anderson (60) noted that parents, peers, friends, teachers, and vocational counselors, in that order, were important influences upon youth. Greenshields (65) found that the major factors of influence on college-going girls came from parents, teachers, friends, and the students themselves.

Attend Different College. Mohs' (61) study revealed that seventy percent of the transfer graduates attended state colleges and universities. Masiko (66) found that seven percent would not attend the same college.

Attend Different Institutions. The majority of female students (75 percent to 80 percent) from junior colleges, senior colleges, and universities preferred to attend the institution they were presently attending, according to a study by Panos and Astin (23).

Employment Opportunities. The U. S. Department of Labor (67) noted that educational differences between employed and unemployed women were not significant. Another study by the Department (68) indicated that the flow of women into the labor force has been from all educational levels. A study by the Oklahoma Employment Security Commission (2) in 1963 discovered that the most important occupations in Oklahoma for women were those in clerical and sales occupations. Specific clerical positions needing additional women employees were those of secretary, stenographer, bookkeeper, and tabulating machine operator.

Initial Employment. Masiko (66), reporting on two surveys, found that more than eighty-five percent of terminal technical graduates in both studies were employed in the field for which they were trained. In addition, more than eighty percent of the employed females indicated they were satisfied with their employment. Less than twenty-five percent of the transfer students accepted employment.

D'Amico and Prah1 (69) found that the first full-time job for females after graduation from Clint Junior College was in clerical and sales work, 50 percent; service, 23 percent; and professional and managerial, 22 percent. Four years after graduation, 22 percent of the females were housewives, while 51 percent were now in professional and managerial areas. Females who continued their education at colleges or universities went into teaching, 60 percent; liberal arts, 14 percent; and business, 10 percent. Faunce (50) found that the most frequent

occupation of gifted female nongraduates was secretarial, followed by clerical and teaching.

Student Future Plans. Berdie (4) revealed that 81 percent of high school students and their parents agreed on a vocational objective. Mohs (61) found that more than eighty percent of the female terminal students were satisfied with their education. Further, almost one-half of the students who had expected to transfer changed their minds. Primary reasons for the lack of transfers were financial difficulties and marriage.

A bachelor's degree was the anticipated level of attainment for junior college (64 percent), senior college (98 percent), and university females (98 percent) in a study by Panos and Astin (23). The percent of high school females in Minnesota planning to attend college increased from 1950 to 1961, while the percentage expecting to go to work after graduation declined, according to Hood and Berdie (70).

Age. Henry (25) reviewed the literature and found that younger students tended to have somewhat higher aptitude and grades than older students. Chase (15) found that dropouts had a larger proportion in the higher age groups. Jex and Merrill (63) found that age did not have statistical significance in a study of persistence at the University of Utah. Hoyt (71) found that most speciality-oriented students were under 21 years of age. Humphrey (72) suggested that age was a difficult factor in the attainment of academic predictors of college students.

Wise (73) suggested that college age is from eighteen to twenty-one, but that the proportion of college students over twenty-one years of age is increasing. Berdie (4) found that age was to some extent

relative to college plans; however, age was more important in the carrying through of plans. Klein and Snyder (74) studied community college students enrolled at Harrisburg Area Community College. Academic achievement and age were associated only in the achiever group. Dwyer (75) found that age may be an indicator of academic success. Phillips (76) and Scott (77) also supported the findings that younger students are superior in achievement and ability.

ACT. The ACT composite score is generally accepted as an estimate of the students' ability to succeed academically in college. Hoyt (78) noted that men scored higher on the ACT composite score than women. Harrington (79), studying freshmen at Ohio University, found that ACT math and social science scores were effective variables for predicting academic performance. Munday (80) compared junior college transfer and terminal students. He found that transfer students had higher ACT composite scores than terminal students and ACT test scores were useful as predictive devices.

Funches (81) found a correlation between the ACT composite standard score and the first-semester grade point average at Jackson State College. The study concluded that the ACT composite standard score was a more reliable predictor of academic success than the high school grade average. Lins, Abell, and Hutchins (82) studied the use of ACT and other variables in predicting academic success. The study revealed a limited relationship between ACT scores and academic performance. Spencer and Stallings (83) found that the ACT composite score was positively correlated with college grade point average.

Munday (84) revealed a correlation between ACT scores and other tests of mental ability. Also, the ACT predictors were correlated with

scholastic aptitude, high school rank, and other areas of achievement. Parsons (85) reported that high school grades had the highest predictive value for first semester grade point averages, but that ACT test scores were valid for predicting grades in courses. Also, little difference was found between the predictive power of the ACT and the Scholastic Aptitude Test. Munday (86) found that both high school grades reported by students and ACT scores were good predictive devices. Baird (87) found that for two-year college students, ACT test scores added to the predictive power of academic performance.

A highly significant correlation between all ACT predictors and college grade point averages was reported by Boyce and Paxson (88). Baird (89) and Richards, Holland, and Lutz (90) reported that ACT scores and other non-academic data reported on the ACT reporting form were significant factors in predicting student accomplishments in college. DeSena and Weber (91) found that ACT tests (English, mathematics, natural sciences, social studies, and composite) were highly significant when correlated with grade point averages. Few studies reported the correlation between ACT test scores and persistence.

Miles From High School of Graduation to College. Jex and Merrill (63) investigated the distance traveled to and from college. They found an insignificant statistical difference related to withdrawal and persistence. Hoyt's (71, 3) data indicated that

Business school students tend to come from communities less than 50 miles from the school, technical school students from less than 200 miles, but trade school students tend to come from over 200 miles away to go to school.

High School Courses and Grades. Many studies have indicated that the high school achievement level (grade point average) is the single



most significant factor in predicting college academic performance and persistence. Baird (89) reported on the utilization of high school grades as one factor in the prediction of accomplishments in college. According to a study by Jackson (92), the mean grade point average increased with an increased credit load. Edds and McCall (93) discovered that high school grades were better predictors than either intelligence tests or English tests. Segal and Proffitt (94) utilized the subject areas of English, mathematics, social sciences, natural sciences, and foreign language to indicate the predictive value of high school grades.

Carlson and Milstein (95) reported that the high school average, English, social studies, and science had significant connections with the college grade point average. Other course categories were industrial arts, fine arts, business, physical education, and health. Additional correlations utilized in the analysis were number of academic units, number of vocational units, and ratio of grades to units attempted. Henderson and Masten (96) reported that the high school average was the best predictor of college success. Scannell (97) and McCormick and Asher (98) supported the high school grade point average as the best predictor of college success.

Guisti (99) reviewed the literature and found that the high school average was the best predictor of college success. Munday (86), reporting on research of the American College Testing Program, indicated that students reported their high school grades with a high degree of accuracy. Munday (84) also reported that correlations were obtained through the utilization of high school English, mathematics, social sciences, and natural science grades. Hills, Gladney, and Klock (100) found that the total high school transcript could be used effectively

for prediction instead of only academic course grades.

Lunneborg and Lunneborg (101) found that the high school grade point average was better than the prior college grade point average for the prediction of academic success of transfer students. Lavin (102) noted that females had higher correlations than did males when utilization of the high school record was made. Irvine (103) found that the high school average was the best criterion for predicting collegiate graduation from pre-admission data. The study also had variables of high school mathematics, social studies, English, and science. Holland and Nichols (104) noted that achievement in high school and other high school factors related to achievement are the best predictors of college achievement.

Boyce (105) reviewed the literature and found that from the data examined the high school grade point average was the best single predictor. Berdie (4) found that the high school percentile rank was statistically significant and tended to favor girls. A study of college attrition by Eckland (13) indicated that high school rank is significant in predicting dropouts. Ikenberry (106) reported that students who withdrew, tended to have poorer high school records. Altman (107) suggested that high school rank was an effective predictor of collegiate achievement.

Elton (108) found that the 12th grade average was a better predictor for girls than boys. Elton (109) argued that a high school grade point average computed for only grades 9, 10, and 11 was as effective as the four-year grade point average. Chase (15) noted that freshmen dropouts were under-represented in the top ranks of high school classes. Wise (73) stated that studies indicate high school

grade records were effective predictors of academic success. Lins (110) found a relationship between high school rank and college grade point average. Hood (7) found that socioeconomic variables add little to prediction of college attainment that high school rank and aptitude tests do not predict. Munday (80) found that high school grades were useful predictive variables for junior college students.

Lins, Abell, and Hutchins (82) used the last high school English, mathematics, social studies, and natural science grades, and the number of academic units, to find correlations for the first-semester college grade point average. Baird (87) noted that academic accomplishments were best measured by high school grades. Jex and Merrill (63) found the high school average grade to be a predictive factor in determining persistence. Ivanoff, Malloy, and Rose (111) found that high school rank was the best predictor of success in nursing training. Brookover, Erickson, and Joiner (58) utilized a high school grade point average composed of grades in English, social studies, mathematics, and science to determine academic achievement. Gadzella and Bental (112) found that the high school grade point average was the best source to discriminate between college graduates and college dropouts.

Additional sophistication has been used by Lindquist (113) in scaling high school grades to improve the prediction of collegiate success. Garrett (114) gave a sequence to the predictive value of high school subjects. The sequence was English, mathematics, social studies, science, and foreign languages. Ashmore (115) found that English, science, and mathematics were good predictors in specific college subjects. Reviews of literature by Waller (39), Henry (25), Sexton (40),

and Richards, Holland, and Lutz (90) point to the high predictive value of high school grades and high school rank.

College Grades. The college grade point average has been used as a predictor of college success and persistence. Hoyt (78) and D'Amico and Prael (69) found that females made higher college grade point averages than males. Doleys and Renzaglis (116), from a sample of Southern Illinois University freshmen, discovered that student estimates of grades are significantly accurate predictors of college grades. Demos (117) studied college dropouts and found that poor grades were of little importance as a reason for dropouts. Travers (118) suggests that before students can be classified as college material some actual performance in college is needed to justify prediction of collegiate success.

Lewis (119) found that after the first year, college grade point averages became the most significant predictor of the college grade point average. Hoyt (120) noted that early college grades predicted later college grades and that grades obtained in junior college were substantially better than grades made after transfer. Hood (7) found that farm students over-achieved in college. Eckland (13) discovered that although academic difficulty was the most important reason for initially leaving college, it became less important when reasons given by those who never graduated were analyzed. The prediction of college grade point averages normally involves the first grading period according to Boyce (105).

Waller (39) reviewed the literature and found that academic difficulty was the major reason for withdrawal. Iffert (121) found that early dropouts were primarily due to a poor academic record. Sexton

(40) noted that most of the literature attributes the major source of withdrawal to poor scholarship.

Major Field of Study. Weitz, Clark, and Jones (122) noted that students who had specific educational goals were better prepared for college. Sexton (40) found that a vocational choice facilitated academic performance. Borow (123) discovered that appropriateness of choice was important to academic performance. Weigand (124) noted that the desire for the vocational choice was a factor in academic success.

High School Size. Irvine (103) found that the number in the high school class was not a significant predictor of graduation. Lins, Abell, and Hutchins (82) suggested that high school class may be a factor in achievement. Lins and Pitt (125) argued that achievement does not increase consistently with increased class size. McDill and Coleman (12) utilized divisions of school size to study student influences. Altman (107) noted that graduates of larger high schools did not significantly achieve higher grade point averages than students of smaller schools. Slocum (126) found that achievement, dropouts, and high school size were not related. However, Shaw and Brown (127) found that under-achievers were more likely to come from less-populated areas.

Hoyt (128) found no significant difference between high school size and college grades. When grades were adjusted for high school rank, however, smaller high schools ranked lower. Hoyt (128) has noted that grades were over-predicted for students from small high schools. Aiken (129) found that high school rank tended to decrease as the high school graduating classes increased. Sexton (40) reviewed the literature and found that although there was some disagreement, students from

larger high schools generally out-performed those from small high schools.

Review of Student Characteristic Literature. Several studies have effectively reviewed the literature for socioeconomic and academic variables to predict the performance or persistence of college students. Among the most important literature reviews are those by Lavin (102), Durflinger (130), and Sexton (40). One of the most comprehensive summaries of state-wide studies is by Clark (131). The survey discovered that student characteristics such as sex, class rank, mental ability, student motives, finances, marriage, and military service were determinates of collegiate attendance. Parental characteristics such as occupations, educational level, and parental attitudes tended to determine the extent of collegiate education. The size of the high school, accreditation, peer influences, teacher influences, guidance in high school, and the high school curriculum were found to be factors that affected collegiate plans. Finally, community characteristics such as socioeconomic level of the community and the proximity to college were determinates of collegiate attendance.

#### Characteristics of Technical Students

Phillips (132) noted socioeconomic differences in technical students enrolled at a junior college, vocational technical school, metropolitan technical institute, and on-campus technical institute. Other patterns of differences were noted for variables of father's and mother's education, parents' employment, and size of town of the student's last high school.

Bates (133) studied the interstate mobility of technical graduates of associate degree programs in Oklahoma. The data revealed that personal and socioeconomic variables affected interstate geographic mobility. Further, technician graduates who migrated out of state tended to prefer employment with larger companies and tended to have higher economic aspirations than those who remained in Oklahoma.

Hoyt (71) noted that the high school grade point average was the best predictor of training success.

#### Characteristics of Business Students

Tabb (134) discovered that ninety-four percent of trade school graduates were using their business training. Three years later, more than seventy percent were still employed in office occupations, while twenty percent were housewives. Green (135) found that many of the business education majors at Michigan State University were originally enrolled in the two-year secretarial program. Dvorak (136) noted that many women drop out of the secretarial program after completing only a few secretarial courses. Many of these dropouts believed that they were qualified for most secretarial positions. Rainey (137) discovered that terminal junior college students had problems transferring to senior colleges.

Waltey and Merwin (138) examined variables that predicted academic achievement by business students. High school rank was the best predictor of unsuccessful students. The Scholastic Aptitude Test was the poorest predictor variable. Russon (139) found that high school grades and scholastic achievement in business education were significantly related. The Cooperative Achievement Test was also significantly related

to achievement in business education. Anderson (140) determined that high school bookkeeping and shorthand were not effective indicators of college success. A social studies index was the most effective predictor.

Beck (141) found that the mother's occupation had a significant effect on the determination of whether daughters worked. Blackstone (142) noted that office work was the area of greatest employment for women; more than one-third of the employed women were in this category. Anderson (143) revealed the need for secretarial skills for college girls to qualify for part-time employment to pay part of their college expenses. Mercier (144) found that secretarial students were in the upper half of their high school class. The parents' educational level was above the high school level. Most of the students elected college because they felt additional training was needed to achieve a desirable position.

Lunneborg and Lunneborg (145) found that the best predictors of success in community college vocational courses were high school grade point averages in English, mathematics, natural science, social studies, and high school elective courses. The study further indicated that secretarial science achievement could be predicted primarily on the basis of high school achievement. Also noted for business students was the effectiveness of the overall grade point average. Jarmon (146) studied dropouts in the School of Business at Texas Southern University; this study found that the causes of dropouts were financial, academic, teacher attitude, and class scheduling. Most of the dropouts occurred during the first year. Rainey (147) discovered that primary reasons for attending junior college were nearness to home and financial.



Anderson (148) studied students in the two-year secretarial program at Northern Illinois University from 1961 through 1963. The study indicated that most dropouts came at the end of the freshman year. Two-year students had lower ACT composite scores and equal ACT English scores to all entering freshmen. High school rank tended to influence the college grade point average. Hallstrom (149) attempted to test for possible significant characteristics among various groups of business graduates of Northern Illinois University from 1953 to 1962. Although academic, undergraduate, social occupational, and graduate education experiences were evaluated, no significant predictive characteristics were developed. Leaver (150) evaluated the effectiveness of predicting academic success of entering freshmen in business education. The results of predictor variables indicated that previous academic experience was the best single predictor variable.

Scoon (151), in a follow-up study of the two-year business administration-accounting program at Madison Vocational, Technical, and Adult Schools, found that fifty percent of the graduates continued their education. Powell (152) found that seventy-one percent of the respondents were employed within the state on their first job. Most of the graduates remained on their first job from one to three years. Beck (153) studied factors influential in determining the employment status of married women college graduates working in business offices. The study indicated that many women holding jobs at the supervisory level were working for temporary reasons and were not interested in making sacrifices necessary for advancement.

Goddard (154) studied the potential role of the junior college in education for business. The findings indicated that junior college

functions include preparation for upper-division study, terminal vocational education, general education, community service-adult education, and guidance. Farley (155) studied the potential role of the Dade County (Greater Miami, Florida) Junior College in the preparation of the semi-professional office worker. The study found that approximately twenty-seven percent of the office employees could be classified as semi-professional. Kidwell (156) studied the need for non-degree business education in the Tucson area. The study indicated that more females dropped out, many because of academically related reasons. Most dropouts in Tucson were older, were from lower socioeconomic status families, and had financial difficulties. Stehr (157) found that marriage was the major cause of job terminations. Most junior college programs in Oklahoma did not have separate terminal and college preparatory courses in business.

Tye (158) compared secretarial science curriculums in public and private junior colleges in the United States. The study found that in many colleges business education exists as the only terminal vocational curriculum. Petijean (159) reviewed the adequacy of the terminal curricula in nine Connecticut junior colleges and four teacher's colleges. The study revealed that more than half of the terminal students came from a college preparatory program. Students attend junior college because of nearness to home and the availability of a desired program. Many of these students ranked in the lower half of their high school graduating class. Fowler (160) studied the socioeconomic status of the student population in Mississippi's junior colleges.

Himstreet (161) attempted to determine the status of certain aspects of business education in the public junior colleges of California.

The study revealed that specialization is related to school size. Darsey (162) reviewed student data helpful to counselors of business education and secretarial administration majors at Texas Technological College. The data revealed that business education and secretarial administration students maintained a "C" average or less and were inadequately prepared for academic success. Langen (163) found that most of the completed research in business education was at the high school level. Lowry (164) developed an extensive survey related to principles of follow-up research in business education.

Allen (165) studied secretarial majors at the Woman's College of the University of North Carolina. The study revealed that significant variables were the high school average, the Scholastic Aptitude Test total score, and the Kuder Preference Record Vocational test score. Hermsen (166) compared students in business education with those in other areas at Wisconsin State College. The study revealed that business education students were younger, were females, and maintained good academic records. Tracy (167) studied the prediction of academic success of junior college business students in California. The findings indicated that high school English and algebra grades could be used to predict general academic success in college.

Cheatham (168) conducted a follow-up study of terminal students graduated from selected Missouri junior colleges to determine the relationship between their college training program and their present occupation. The study revealed that the major reasons for terminating formal education after junior college were financial and marriage. Cook (169) conducted a follow-up survey of business students for the years 1964 through 1966 at the Waukesha Vocational, Technical and Adult

School, Waukesha, Wisconsin. The survey revealed that the stenographic and secretarial area employed the greatest number of people, followed by clerk-typists and bookkeeping-accounting.

Place (170) studied the academic success of junior college transfer students in the California State College Business Division. The study revealed that academic performance was not influenced by the size of the junior college from which the students transferred, although non-junior college students were more likely to graduate. Karp (171) analyzed variables related to the academic success of first-year private business school students. The study indicated that the most important academic predictor was high school rank. Other important predictors were verbal reasoning and clerical speed and accuracy.

#### Studies of Oklahoma Business Students

Several studies have been made in Oklahoma on the characteristics of junior college students. The studies were all of the follow-up type and were inquiries into the post-junior college experiences of the graduates. Randol (172) studied the graduates of the Commercial Department at Cameron State Agricultural College from the years 1936 to 1940. She found that approximately one-third of the women who graduated attended a senior college. Approximately seventy percent of the women not in college were employed full time; nine percent were unemployed; and ten percent of the total graduates were housewives.

Walcher (173) studied former students at Northern Oklahoma Junior College from 1938 to 1947. He found that forty percent of the female respondents continued their collegiate education. Stella (174) made a follow-up study of the graduates of the School of Intensive Business,

Oklahoma Agricultural and Mechanical College for the years 1939 to 1947. She found that eighty-seven percent of the certificate holders obtained initial positions in the field in which their training occurred. The most popular positions for females were stenographer, secretary, typist, and general clerical. After initial employment, more than one-half of the females discontinued employment because of marriage. Approximately twenty-five percent of the females continued their education at another institution.

McCoy (175) studied drop-out students of the School of Intensive Business Training, Oklahoma Agricultural and Mechanical College for the years 1945 to 1950. The study found that twenty-seven percent of the respondents continued their education after they dropped out of the School of Intensive Business Training. Further, respondents who had high grade-point averages tended to remain in the School of Intensive Business Training longer than the respondents who had lower grade point averages. Hemphill (176) made a study of the academic and vocational activities of dropouts in the School of Commerce at Oklahoma Agricultural and Mechanical College from 1926 to 1936. She found that students who dropped out ranked somewhat lower on the entrance tests than did the entire freshman class at Oklahoma Agricultural and Mechanical College. Financial difficulty was reported by about forty percent of the students as the reason for leaving the School of Commerce.

#### Post-High School Business Programs

The author was associated with the 1967 study of post-high school education in Oklahoma conducted by Dr. Paul Braden and Dr. Maurice Roney of Oklahoma State University. The author had primary

responsibility for the determination of the status of post-high school business programs in Oklahoma. The following includes much of the data from the reported research.

Students who pursue post-high school business education programs normally do so in order to prepare for the world of work at the semi-professional and professional levels. Post-high school business programs in Oklahoma have consisted of training for students at the higher education level in public and private universities, colleges, and junior colleges. Many students have concentrated their studies at proprietary business schools, while others were enrolled in adult courses offered by high schools and/or area vocational schools. Specific training in business skills was available at the Oklahoma State University School of Technical Training at Okmulgee. Federally financed programs (Manpower Development and Training Act, Area Redevelopment Act, and the Job Corps) offered training or retraining in office skills.

There was a diversity of vocational business education programs. This diversity consisted primarily of length of training, academic curricula (transfer or terminal), level of entry employment intended, qualifications of students, and cost. This diversity of educational experience appeared to be consistent with the objectives of the various organizations involved in post-high school vocational business education.

A state-wide study by the Research Coordinating Unit of Oklahoma State University examined plans of Oklahoma high school seniors. The study determined that forty percent of the high school students completed more credits in business than any other vocational area. Business had more than twice the students of the second vocational field in

which students completed credits. High school graduates who planned further education in business indicated the following plans: almost thirteen percent planned to major in business administration areas, while an additional five percent planned to major in secretarial science; almost six percent planned to attend proprietary business schools. The preceding data indicated that a significant number of high school students planned to train for semi-professional entry positions in business. The additional manpower requirements for clerical occupations by 1970 and 1975 developed by the Oklahoma Employment Security Commission (178) are shown in Table I.

TABLE I  
ADDITIONAL CLERICAL-SALES MANPOWER REQUIREMENTS FOR OKLAHOMA

Clerical Occupations	Employment Oct., 1963	Additional Requirements Oct., 1970	Additional Requirements Oct., 1975
Bookkeeper, Hand	8,065	3,296	5,066
Bookkeeper, Machine Operator	4,562	1,379	2,376
General Office Clerk	31,639	10,771	18,224
Key Punch Operator	1,714	495	856
Stenographer	8,638	2,818	4,896
Secretary	10,687	4,599	7,752
Tab Machine Operator	1,187	322	514
Other Clerical	43,475	10,067	19,214
Salesperson	41,597	15,563	24,488
Other Sales	<u>22,304</u>	<u>5,444</u>	<u>10,134</u>
TOTAL	173,868	54,754	93,520

Source: Oklahoma Employment Security Commission, Oklahoma City, Oklahoma.

Recent revisions of manpower requirements in clerical occupations have been made by Ling-Temco-Vaught, Inc. (179, p. 3-B-5). This updated material is presented in Table II.

TABLE II  
ADDITIONAL CLERICAL MANPOWER REQUIREMENTS FOR OKLAHOMA

Clerical Occupations	Employment Oct., 1966	Additional Requirements Oct., 1970	Additional Requirements Oct., 1975
Bookkeeper, Hand	9,020	2,080	4,080
Bookkeeper, Machine Operator	4,920	980	2,080
General Office Clerk	34,700	6,100	13,700
Key Punch Operator	2,020	380	1,005
Stenographer	9,410	2,240	4,740
Tab Machine Operator	1,320	390	730
Other	<u>46,500</u>	<u>10,800</u>	<u>23,800</u>
TOTAL	119,940	26,320	56,185

Source: Ling-Temco-Vaught, Inc., Dallas, Texas.

Proprietary Business Schools. The proprietary business schools which were accredited by the Oklahoma State Accrediting Agency were concentrated in Oklahoma City and Tulsa. Less than twelve percent of the students enrolled in proprietary business schools attend such schools outside the two metropolitan areas.

The schools involved taught a variety of skills and semi-professional business subjects. Primarily, the efforts tended to be concentrated in the secretarial-stenographic skills, various levels of



accounting, and automated machine operations.

Although the proprietary business schools were a major supplier of post-high school trained office employees, the total enrollment did not show the rapid increase that was evident in lower-division business enrollments in institutions of higher education in Oklahoma.

Studies by the Oklahoma State Regents for Higher Education estimated that in 1963 more than five thousand graduates were produced each year by proprietary business schools. The data for 1965 and 1966 seemed to indicate almost the same number of graduates was produced. The number of students and graduates produced by the proprietary business schools made these institutions the suppliers of the greatest number of post-high school vocational business students.

The enrollment data presented included full-time, part-time, and evening students. At least one school offered correspondence training in business. Table III indicates the proprietary business school enrollments during the Fall of 1966.

Students enrolled in correspondence courses were excluded from data presented in Tables III and IV. Table IV indicates the total enrollment of proprietary business schools from 1965 to 1967.

Although data were available only for schools accredited by the Oklahoma State Accrediting Agency, it was estimated that more than ninety percent of the students enrolled in proprietary business schools were included in the data.

Adult Education. There were several types of adult post-high school business programs available. One example was the local effort of the Tulsa Public Schools in providing adult education. Table V shows that from 1960 to 1967 the offerings in adult business education

TABLE III

## FALL, 1966 PROPRIETARY BUSINESS SCHOOL ENROLLMENTS IN OKLAHOMA

1. American Business College	Oklahoma City	27
2. Bartlesville Business College	Bartlesville	63
3. Blackwood Business College	Oklahoma City	99
4. Dalton Business College	Lawton	41
5. Draughon's School of Business	Oklahoma City	266
6. Draughon's School of Business	Tulsa	296
7. Enid Business College	Enid	169
8. Hill's Business University, Inc.	Oklahoma City	231
9. Oklahoma Institute of Technology	Oklahoma City	15
10. Oklahoma School of Accountancy	Tulsa	637
11. Oklahoma School of Banking	Oklahoma City	562
12. Ponca City Business College	Ponca City	37
13. Tulsa Business College	Tulsa	237
14. Tulsa Technical College	Tulsa	79

Source: Oklahoma State Accrediting Agency, State Capitol, Oklahoma City, Oklahoma.

TABLE IV

ENROLLMENTS OF PROPRIETARY BUSINESS SCHOOLS IN OKLAHOMA  
FOR THE YEARS 1965 THROUGH 1967

Year	Enrollment
Spring, 1965	2031
Fall, 1965	2676
Spring, 1966	2427
Fall, 1966	2759
Spring, 1967	2422

Source: Oklahoma State Accrediting Agency, State Capitol, Oklahoma City, Oklahoma.

TABLE V  
ADULT BUSINESS CLASSES -- TULSA PUBLIC SCHOOLS

Name of Class	ENROLLMENT BY YEARS							Total
	<u>1960-61</u>	<u>1961-62</u>	<u>1962-63</u>	<u>1963-64</u>	<u>1964-65</u>	<u>1965-66</u>	<u>1966-67</u>	
<u>Business</u>								
Bookkeeping I	70	66	61	75	108	90	98	568
Bookkeeping II	19	31	19	20	38	19	4	150
Business English	39	26	8	--	--	--	--	73
Business Machines	75	87	107	95	123	140	171	807
Shorthand IA	131	138	139	183	178	168	84	1,021
Shorthand IB	76	58	59	69	42	65	114	483
Shorthand Review	44	58	46	88	54	49	49	388
Dictation & Transcription	51	51	26	32	40	39	35	274
Typewriting I	183	154	143	93	101	--	--	674
Typewriting II	--	101	87	20	--	--	--	208
Typewriting I & II	--	16	8	206	292	355	420	1,297
Advanced Typewriting	33	33	53	55	37	91	67	369
Dictaphone Practice	<u>9</u>	<u>18</u>	<u>17</u>	<u>27</u>	<u>14</u>	<u>19</u>	<u>13</u>	<u>117</u>
TOTAL	730	837	773	963	1,027	1,044	1,055	6,429

Source: Tulsa Public Schools, Tulsa, Oklahoma.

expanded, and enrollments during this period of time increased almost forty-five percent. Many other high schools offered adult business programs; however, in recent years the emphasis has been placed on courses that can be supplemented by federal funds.

Federally Financed Programs. From 1961 to 1967, business courses have been offered through the Manpower Development and Training Act and Area Redevelopment Act as shown in Table VI. The locations were concentrated in the eastern half of Oklahoma. Programs have varied in number of weeks of training, type of course, and location, as shown for the 1967 fiscal year in Table VII. Some programs were associated with junior colleges; however, most were coordinated with local high schools. A few programs (Job Corps at Guthrie) were developed independently of existing college or high school facilities. All of these programs fluctuated in location and offerings based on local labor market and socioeconomic factors.

TABLE VI

## FEDERALLY FINANCED BUSINESS PROGRAMS

Years	MDTA Students	ARA Students	Total Students
1961-62	0	297	297
1962-63	120	0	120
1963-64	80	30	110
1964-65	526	0	526
1965-66	130	35	165
1966-67	75	0	75

Source: State Board for Vocational Education, Stillwater, Oklahoma.

TABLE VII  
 TYPES OF BUSINESS TRAINING AVAILABLE UNDER MDTA 1966-1967

Location	Course	Students	Weeks
NEO A & M, Miami	Stenographic Refresher	25	26
NEO A & M, Miami	Key Punch Operator	15	12
Poteau	Stenographic Refresher	20	26
Clinton	Clerk, General Office	15	20

Source: State Board for Vocational Education, Stillwater, Oklahoma.

From 1965 to 1967, a limited amount of funds were available for approved adult enrollment in business and office education areas. Almost all of the reimbursed adult business and office courses were offered either by local high schools or by area vocational schools. Locations are shown by Table VIII.

Higher Education. The 1966 data for lower-division business enrollments in higher education in Oklahoma are presented in Table IX. The total includes all students who, at the freshman or sophomore level, indicated business or business education as their area of emphasis. Many of the four-year institutions have historically listed business education students under the classification of education rather than business. In some colleges the business education students were not indicated. For these colleges there were differences between the detailed listing of all business majors, including business education and the summary total of business.

TABLE VIII  
REIMBURSED PROGRAMS FOR ADULT BUSINESS ENROLLMENTS

Location	1965-66	1966-67	Area Schools Only 1966-67
1. Ardmore	---	---	149
2. Clinton	41	43	---
3. Duncan	173	---	162
4. Guthrie	71	92	---
5. Lawton	---	30	---
6. Oklahoma City	443	1,195	29
7. Okmulgee	37	---	---
8. Sand Springs	10	30	---
9. Stillwater	---	40	---
10. Tulsa	---	24	12
11. Woodward	<u>54</u>	<u>---</u>	<u>---</u>
TOTAL	829	1,454	352

Source: State Board for Vocational Education, Stillwater, Oklahoma.

TABLE IX

FALL, 1966 FRESHMEN AND SOPHOMORE BUSINESS ENROLLMENT  
IN OKLAHOMA INSTITUTIONS OF HIGHER EDUCATION

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STATE INSTITUTIONS OF HIGHER LEARNING

*1.	Central State College	Edmond	1592
*2.	East Central State College	Ada	271
3.	Langston University	Langston	108
*4.	Northeastern State College	Tahlequah	297
*5.	Northwestern State College	Alva	217
*6.	Oklahoma College of Liberal Arts	Chickasha	120
*7.	Oklahoma State University	Stillwater	1424
*8.	Panhandle A & M College	Goodwell	118
*9.	Southeastern State College	Durant	181
*10.	Southwestern State College	Weatherford	426
*11.	The University of Oklahoma	Norman	1111

STATE JUNIOR COLLEGES

*12.	Cameron State Agricultural College	Lawton	502
*13.	Connors State Agricultural College	Warner	72
*14.	Eastern Oklahoma A & M College	Wilburton	188
*15.	Murray State Agricultural College	Tishomingo	128
*16.	Northeastern Oklahoma A & M College	Miami	365
*17.	Northern Oklahoma Junior College	Tonkawa	249
*18.	Oklahoma Military Academy	Claremore	67

INDEPENDENT SENIOR COLLEGES

*19.	Benedictine Heights College	Tulsa	0
*20.	Bethany Nazarene College	Bethany	155
21.	Oklahoma Baptist University	Shawnee	91
*22.	Oklahoma Christian College	Oklahoma City	92
*23.	Oklahoma City University	Oklahoma City	252
*24.	Oral Roberts University	Tulsa	52
*25.	Phillips University	Enid	137
*26.	The University of Tulsa	Tulsa	944

INDEPENDENT AND MUNICIPAL JUNIOR COLLEGES

27.	Bacone College	Muskogee	68
*28.	Central Pilgrim College	Bartlesville	19
29.	Saint Gregory's College	Shawnee	157
*30.	Southwestern College	Oklahoma City	21
*31.	Altus Junior College	Altus	18
*32.	El Reno Junior College	El Reno	44
*33.	Poteau Community College	Poteau	27
*34.	Sayre Junior College	Sayre	**13
*35.	Seminole Junior College	Seminole	NA

TECHNICAL INSTITUTES

*36.	OSU School of Technical Training	Okmulgee	237
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\* Indicates that students could receive in 1966-67 either a Certificate of Completion or an Associate Degree with a concentration in Business.

\*\* NA - Not Available.

Source: Oklahoma State Regents for Higher Education, State Capitol, Oklahoma City, Oklahoma.

In 1966, only East Central State College listed Vocational Business Short Course students in their report to the Oklahoma State Regents for Higher Education. Other institutions classified such students as Office Administration, Office Management, Secretarial Science, Secretarial Administration, Business Administration, General Business, Business, or Business Education students.

The enrollment data presented in Table IX were based on a head count. Head-count data approximated the full-time equivalent students at most institutions. Most institutions enrolled part-time and evening students. The most frequently used method of classifying these students was to list all the part-time and evening students as special students. Another method of classification was to combine the evening enrollments with day enrollments. Under both methods students classified as either freshmen or sophomores, who were pursuing certificates or associate degrees, were included in the totals.

A few institutions had Manpower and other such programs that were engaged in business training or retraining. Most institutions have not included these students in their lower-division enrollments.

Although many junior colleges have one-year specialized business programs listed in their catalogs, only Northern Oklahoma College actually awarded a one-year Intensive Business Certificate. The Oklahoma State University School of Technical Training at Okmulgee also had one and two-year business programs for which Certificates of Accomplishment were awarded. Many colleges had a forty-semester-hour or two-year business program for which an associate degree or certificate was awarded. These institutions are indicated by an asterisk in Table IX.



Most holders of associate degrees awarded by junior colleges pursued an academic program leading to transfer to a four-year college or university. The data indicated that business associate degree holders increased significantly since 1960. While the intention of the associate degree holders tended to be transfer rather than terminal, many students terminated their higher education experience after receiving the certificate or associate degree. Table X contains a listing of the number of students who completed either an associate degree program or a vocational business certificate program from 1960 through 1967.

Dr. Bill Gene Rainey (147) in his doctoral dissertation entitled Articulation in Collegiate Education for Business indicated that 41.7 percent of municipal and independent junior college students and 60.3 percent of state junior college students who completed two years of junior college transferred. The averages were based on data received from departmental chairmen.

Since 1960 several institutions have doubled their production of certificate holders. Preliminary data indicated that the state-supported institutions produced more combined associate degree and certificate holders and also had the greater increase in enrollment as shown by Table XI.

As institutions changed their functions, changes were anticipated in the preceding programs. Examples of this are that Oklahoma College of Liberal Arts planned to delete the certificate program, while Panhandle State College instituted the certificate program. Cameron State College anticipates instituting either a one or two-year certificate program.

TABLE X

OKLAHOMA INSTITUTIONS AWARDING ASSOCIATE DEGREES AND VOCATIONAL CERTIFICATES  
(1960-1967)

Oklahoma Institutions	1967	1966	1965	1964	1963	1962	1961	1960
1. Central State College	28	17	20	12	7	13	6	4
2. East Central State College	4	6	4	1	5	1	0	1
3. Langston University	0	0	0	0	0	0	0	0
4. Northeastern State College	0	0	0	0	0	0	0	0
5. Northwestern State College				Data Not Available				
6. Oklahoma College of Liberal Arts	0	0	3	1	3	0	4	0
7. Oklahoma State University	36	38	24	24	18	28	32	12
8. Panhandle A & M College	1	0	0	0	0	0	0	0
9. Southeastern State College	0	0	0	0	0	0	0	0
10. Southwestern State College	32	14	17	25	19	14	12	1
11. The University of Oklahoma	12	17	19	12	17	20	10	12
12. Cameron State Agricultural College	53	42	38	38	39	31	29	48
13. Connors State Agricultural College				Data Not Available				
14. Eastern Oklahoma A & M College	47	38	34	25	27	16	18	**NA
15. Murray State Agricultural College	15	19	10	13	9	4	11	**NA
16. Northeastern Oklahoma A & M College	85	60	74	42	54	40	41	60
17. Northern Oklahoma Junior College	34	25	29	12	32	**25	28	21
*17. Northern Oklahoma Junior College	13	15	15	13	24	**NA	11	17
18. Oklahoma Military Academy				Data Not Available				
19. Benedictine Heights College	0	0	0	0	0	0	0	0
20. Bethany Nazarene College	9	4	6	6	5	1	3	3
21. Oklahoma Baptist University	5	4	3	4	1	3	8	7
22. Oklahoma Christian College	0	0	0	1	0	0	0	0
23. Oklahoma City University				Data Not Available				
24. Oral Roberts University	0	0	0	0	0	0	0	0
25. Phillips University	1	0	1	1	2	3	2	2
26. The University of Tulsa	5	8	3	5	2	3	0	5
27. Bacone College				Data Not Available				
28. Central Pilgrim College	0	0	0	0	0	0	0	0
29. Saint Gregory's College	50	23	17	13	14	13	0	0
30. Southwestern College	5	4	3	3	3	1	1	3
31. Altus Junior College	8	6	6	5	6	4	0	0
32. El Reno Junior College				Data Not Available				
33. Poteau Community College				Data Not Available				
34. Sayre Junior College	4	0	0	0	0	0	2	0
35. Seminole Junior College				Data Not Available				

\* Indicates number of Certificates of Completion: One-Year Students.

\*\* NA - Not Available.

Source: Registrar, Above Listed Institutions.

TABLE XI

FALL, 1959-1966 FRESHMEN AND SOPHOMORE BUSINESS ENROLLMENT  
IN OKLAHOMA INSTITUTIONS OF HIGHER EDUCATION

Fall Semester	Private and Municipal	State Supported Enrollments	Total Enrollments
1959-60	1285	4199	5484
1960-61	1391	4601	5992
1961-62	1325	4847	6172
1962-63	1321	5053	6374
1963-64	1367	5275	6642
1964-65	1569	6233	7802
1965-66	2199	7659	9858
1966-67	2090	7673	9763

Source: Oklahoma State Regents for Higher Education, State Capitol, Oklahoma City, Oklahoma.

Table XII contains a selected analysis of faculty teaching loads and student-credit-hour costs for Group I institutions in the Oklahoma State System of Higher Education. Table XIII contains the same data for Group II institutions. Both tables listed data for only lower-level (division) business students. The comparisons which can be made from these tables gives indications of differences between certificate granting and non-certificate granting institutions.

Conclusion. The primary effort in post-high school business training during recent years has been in institutions of higher education and the proprietary business schools. Although several adult programs have been available, the total effort of such programs by the high schools and others has been limited. Federal monies expended have been aimed at local labor market needs and socioeconomic problem areas. In

TABLE XII

OKLAHOMA INSTITUTIONS DURING THE ACADEMIC YEAR 1965-1966  
(LOWER LEVEL ONLY)

	OU	OSU	CSC	ECSC	NESC	NWSC	SESC	SSC
1.	9	7	12	11	11	10	11	13
2.	74	49	103	28	49	28	36	67
3.	1	1	0	0	0	0	0	0
4.	0	0	0	0	0	0	0	0
5.	225	150	278	82	138	72	98	177
6.	11,139	7,188	11,774	3,105	5,521	2,149	2,799	7,525
7.	49.5	47.9	42.3	37.8	40	29.8	28.5	42.5
8.	10.66	12.31	10.28	2.40	5.15	2.27	3.27	5.49
9.	10.5	6.0	13.5	17.0	13.3	15.8	14.9	16.1
10.	1,044.9	583.9	1,145.3	1,293.7	1,072.0	946.6	855.9	1,370.6
11.	75,461	84,195	78,057	18,539	40,805	16,639	22,820	39,023
12.	6.77	11.71	6.62	5.97	7.39	7.74	8.15	5.18

## Code:

1. Number of Different Courses Taught	OU	The University of Oklahoma
2. Number of Classes Taught	OSU	Oklahoma State University
3. Number of Small Classes	CSC	Central State College
4. Classes Taught by Independent Study	ECSC	East Central State College
5. Semester Hours of Classes Taught	NESC	Northeastern State College
6. Student-Credit-Hours Produced	NWSC	Northwestern State College
7. Weighted Average Size of Classes Taught	SESC	Southeastern State College
8. Full-Time-Equivalent Teaching Faculty	SSC	Southwestern State College
9. Average Semester Hours of Teaching Per Semester		
10. Average Student-Credit-Hours Produced		
11. Instructional Salary Expenditures		
12. Instructional Salary Cost Per Student-Credit-Hours		

Source: Regents for Higher Education, State Capitol, Oklahoma City, Oklahoma.

TABLE XIII

OKLAHOMA INSTITUTIONS DURING THE ACADEMIC YEAR 1965-1966  
(LOWER LEVEL ONLY)

	OCLA	PAN	LANG	CAM	CON	EAST	MUR	N-EAST	NOC	OMA
1.	14	8	7	17	16	13	15	28	22	12
2.	20	12	8	64	20	25	14	61	53	16
3.	1	0	1	0	4	0	8	3	8	4
4.	0	0	0	0	0	0	0	0	0	0
5.	56	35	20	186	66	75	63	177	165	60
6.	1,453	1,123	495	4,669	1,119	1,671	899	5,332	3,744	819
7.	25.9	32.0	24.7	25.1	16.9	22.2	14.2	30.1	22.6	13.6
8.	1.74	1.48	.81	5.50	2.07	2.73	1.98	6.92	5.80	1.90
9.	16.0	11.8	12.3	16.9	15.9	13.7	15.9	12.7	14.2	15.7
10.	835.0	758.7	611.1	848.9	540.5	612.0	454.0	770.5	645.5	431.0
11.	14,398	10,681	5,961	31,947	12,850	18,873	12,709	54,792	41,870	14,492
12.	9.90	9.51	12.04	6.84	11.48	11.29	14.13	10.27	11.18	17.69

## Code:

1. Number of Different Courses Taught	OCLA	Oklahoma College of Liberal Arts
2. Number of Classes Taught	PAN	Panhandle A & M College
3. Number of Small Classes	LANG	Langston University
4. Classes Taught by Independent Study	CAM	Cameron State Agricultural College
5. Semester Hours of Classes Taught	CON	Connors State Agricultural College
6. Student-Credit-Hours Produced	EAST	Eastern Oklahoma A & M College
7. Weighted Average Size of Classes Taught	MUR	Murray State Agricultural College
8. Full-Time-Equivalent Teaching Faculty	N-EAST	Northeastern Oklahoma A & M College
9. Average Semester Hours of Teaching Per Semester	NOC	Northern Oklahoma Junior College
10. Average Student-Credit-Hours Produced	OMA	Oklahoma Military Academy
11. Instructional Salary Expenditures		
12. Instructional Salary Cost Per Student-Credit-Hours		

Source: Regents for Higher Education, State Capitol, Oklahoma City, Oklahoma.

the case of business and office education at the post-high school level, funds are made available only for those students who are receiving terminal adult vocational business instruction.

Funds generally have not been available for planned curricula of either terminal or transfer business programs for the higher education institutions or proprietary business schools. The Vocational Act of 1963, which provides funds for business and office education, has had little impact on the total effort of vocational business education beyond the high school in Oklahoma.

## CHAPTER III

### METHODOLOGY AND DESIGN

The primary purpose of this study was to determine those student characteristics that predict the collegiate termination, before receiving a baccalaureate degree, of students who received business and office certificates from the public institutions of higher learning in Oklahoma.

The secondary purposes of this study were (1) the determination of the present status of post-high school business certificate programs in institutions of higher learning in Oklahoma; (2) the determination of business and business certificate enrollment patterns in these colleges and universities; and (3) the determination of the number of business certificate graduates in institutions of higher learning in Oklahoma who were awarded business certificates or associate degrees since 1963.

#### Institutions Included in the Study

The following sequences were used to identify state institutions to be included in the study. An examination was made of all state-supported universities, colleges, and junior colleges to ascertain if specific certificate programs were operational. Next, an evaluation was made to determine whether students could be identified and whether these students had completed a program designed for a clerical or a secretarial certificate. The purpose of the certificate programs was

to prepare students for entry employment. A criteria of a minimum of fifteen business certificate holders was established as the minimum certificates awarded during the five-year period for an institution to be included in the study. Finally, for the institutions selected, assistance was sought from registrars and department heads to list by name students who received a clerical or a secretarial certificate from May, 1963, to May, 1967.

The institutions which fulfilled the minimum criteria included two state universities, Oklahoma State University (hereafter referred to as OSU) and the University of Oklahoma (hereafter referred to as OU); three state colleges, Central State College (hereafter referred to as CSC), East Central State College (hereafter referred to as ECSC), and Southwestern State College (hereafter referred to as SSC); and one state junior college, Northern Oklahoma College (hereafter referred to as NOC). The two state universities had two-year certificate programs (64 semester hours). These programs included both general and specialized (business) courses with approximately one-half of the content devoted to each area. The three state colleges had one full year (40 semester hours) certificate programs. These programs emphasized specialized (business) courses for the entire training program. The state junior college had a two-semester program (30 semester hours) involving intensive business specialization. Again only business courses were involved in the training program.

#### Students Included in the Study

The following procedure was utilized in the determination of which students to include in the study. Transcript data were evaluated to



ascertain whether the students listed by registrars and department heads had completed certificate requirements listed in the official college or university catalog. After names of certificate holders were acquired, registrars were contacted to determine if high school and collegiate transcript information was available. Data were compiled on 502 female students who received the certificate from May, 1963, to May, 1967. The population of the study consisted of 214 university students, 199 college students, and 79 junior college students. Data from high schools and colleges were compiled for each of the 502 certificate holders. Table XIV indicates the certificate holders who terminated and those who continued by institution.

TABLE XIV

## TOTAL STUDENTS IN THE STUDY

Institution	Terminated Education	Continued Education	Did Not Return Question- naire	Total
Oklahoma State University	93	50	14	157
Oklahoma University	28	21	18	67
Central State College	52	8	19	79
East Central State College	14	4	1	19
Southwestern State College	75	16	10	101
Northern Oklahoma College	52	5	22	79

## Data Collection

Parametric data were collected from student records maintained by college and university registrars. Additional data were obtained from student records maintained by colleges or departments of business, high schools from which the student graduated, previous institution attended for transfer students, and the student himself. Parametric data collected by the above methods included age, ACT scores, high school and college academic records, miles from high school to college, and high school size.

Instrumentation. Non-parametric data were collected through the utilization of a questionnaire. The design of the questionnaire was based upon a literature review and selected questions from an instrument used by the Research Coordinating Unit of Oklahoma State University (177) in their Survey of Aspiration of Oklahoma High School Seniors in 1967. The questionnaire developed for this study is shown in Appendix A.

The following procedures were used to develop the questionnaire. Sources and techniques of research and questionnaire development were consulted to formulate design and to give systemization to the data collected. Sources particularly helpful were Lowry (165) and Iliff (181). Iliff's (181) article on follow-up research in the National Business Education Quarterly was especially helpful. Questions were then designed and submitted to a jury of colleagues who were experienced in advising certificate students. The initial design was also administered to twenty freshmen females enrolled in the business program at SSC. Revisions were made and the revised questionnaire was pre-tested

on fourteen students enrolled in the certificate program at SSC. To insure anonymity, each questionnaire was coded.

The final instrument was mailed on January 7, 1969, to 502 female certificate holders. Enclosed in the first mailing was a cover letter shown in Appendix B explaining the purpose of the questionnaire. The cover letter was duplicated on stationery of the Research Coordinating Unit of Oklahoma State University. Also enclosed with the questionnaire and cover letter was a stamped, self-addressed envelope of the Research Coordinating Unit.

A follow-up was mailed on January 28, 1969, again including an instrument, a cover letter shown in Appendix C, and a stamped, self-addressed return envelope. On February 19, 1969, a reminder letter shown in Appendix D was mailed and on March 21, 1969, another follow-up was mailed. Included in the March mailing were the instrument, the stamped, self-addressed envelope, and a cover letter shown in Appendix E emphasizing that several certificate holders from a particular institution had not returned the questionnaire. Eighteen partially completed questionnaires were received and attempts were made to obtain more complete returns by repeat mailings. Some items on partially incomplete instruments were completed by references to high school and college records.

Results of each of the mailings are shown in Table XV. A total of 418 completed questionnaires were returned. Of the 418 students, transcript data indicated that 314 had terminated their collegiate education, and 104 had continued after receiving a certificate.

Students who had maintained full-time enrollment (twelve hours per semester) in college from September, 1967, through January, 1969, were

classified as continuing students; all others were classified as terminated. The time period allowed to determine who continued was twenty months (June, 1967, to January, 1969). This allowed most university students who continued sufficient time to graduate and, for the senior college and junior college students, sufficient time to attain junior-senior status.

TABLE XV  
RESPONSES TO THE QUESTIONNAIRE

Institution	First Mailing	Second Mailing	Third Mailing	Final Mailing	Total Response	Total Students
OSU	88	31	10	14	143	157
OU	26	14	1	8	49	67
CSC	36	15	2	7	60	79
ECSC	12	3	2	1	18	19
SSC	65	13	5	8	91	101
NOC	32	12	4	9	57	79
TOTAL	259	88	24	47	418	502

#### Data Analysis and Statistical Procedure

The design of this study was primarily ex post facto in nature. Ex post facto research studies independent variables in retrospect. Kerlinger (182, p. 371) noted that:

Ex post facto research has three major weaknesses: (1) the inability to manipulate independent variables, (2) the lack of power to randomize, and (3) the risk of improper interpretation.

The Oklahoma State University Computer Center was utilized to analyze the data. Parametric and non-parametric data were coded and punched on two IBM cards. (These code sheets are shown in Appendixes F and G.) The parametric data were analyzed using an adapted version of the Analysis of Variance for One-Way-Design, Version of June 15, 1966, Health Sciences Computing Facility, UCLA. The non-parametric data were analyzed using an adapted version of the Contingency Table Analysis, Version of June 15, 1966, Health Sciences Computing Facility, UCLA. A frequency and percentage analysis was made of the state of employment and months of employment items on the questionnaire. In all cases where analysis of variance was used, a test for homogeneity of variances was utilized to ensure that variances were not significantly different among themselves. The following procedure was suggested by Popham (183, pp. 180, 181):

. . . the assumption of subgroup homogeneity of variance can be tested by several techniques. One of the most widely used is Bartlett's test. A simple, but less rigorous, test of homogeneity of variance has also been described by Edwards. . . . A simple first test of homogeneity of variance may be made by calculating the individual variances of the subgroups and dividing the smallest  $s^2$  into the largest  $s^2$ . The quotient of this division is an F value which is interpreted for statistical significance by the Table of F.

Winer (184) suggests that when using analysis of variance with unequal sample sizes, a check for homogeneity of variance would be to divide the smallest variance into the largest variance to find a computed F.

Since only two variances were used in the statistical analysis, the test of homogeneity suggested by Edwards (185) was concluded without further testing for heterogenous variances by the Bartlett technique.

Two techniques were used for the statistical analysis of the non-parametric data. When the degrees of freedom were greater than one, the Contingency Table Statistical Analysis was utilized. The approach suggested by Siegel (186, p. 110) assumed that:

When  $K$  is larger than 2 (and thus  $df > 1$ ), the  $X^2$  test may be used if fewer than 20 percent of the cells have an expected frequency of less than 5 and if no cell has an expected frequency of less than 1. If these requirements are not met by the data in the form in which they were originally collected, the researcher must combine adjacent categories in order to increase the expected frequencies in the various cells.

When non-parametric data required that cells be combined into a two-by-two contingency table, the following guidelines suggested by Siegel (186, p. 110) were followed:

1. When  $N > 40$ , use  $X^2$  corrected for continuity.
2. When  $N$  is between 20 and 40, the  $X^2$  test may be used if all expected frequencies are 5 or more. If the smallest expected frequency is less than 5, use the Fisher test.
3. When  $N < 20$ , use the Fisher test in all cases.

In two-by-two contingency tables where the  $N$  was less than 40, the Fisher Exact Probability Test suggested by Siegel (186) was utilized in the statistical analysis.

#### Student Characteristics

The age in months of the students in the sample was computed from the month of birth up to and including the month the certificate was received.

The American College Testing standard scores were taken from the student's high school or college record. The ACT percentile scores were the college-bound percentiles listed with the ACT standard scores in the student's records.

The miles from high school to college were computed on the shortest linear distance from the high school from which the student graduated to the institution from which the certificate was received.

Each student's academic record of courses in grades nine, ten, eleven, and twelve was computed. Each semester's work was listed by course in eight areas. In addition, each course performance was listed on a four point scale of A = 4, B = 3, C = 2, D = 1, and F = 0. For high schools where grades were assigned a numeric value and no alphabetic comparisons were given, the following scale was used: 93 - 100 = 4, 86 - 92 = 3, 75 - 85 = 2, 70 - 74 = 1, and below 70 = 0. Excluded from this study were high school courses in physical education, drivers training, religion, chorus, office, library, and certain non-theory music and art courses.

Courses specifically included by area are given below:

1. Biological and Physical Sciences: General Science, Biology, Physics, Physiology, Zoology, Botany, Chemistry, and Physical Geology.
2. Social Sciences: Oklahoma History, World History, Government, American History, Civics, Social Studies, Psychology, Sociology, Problems of Democracy, American Problems, Modern History, Geography, European History, Social Problems, and Human Relations.
3. English: English I, English II, English III - American Literature, English IV - English Literature, Speech, Dramatics, Public Speaking, Creative Writing, Journalism.
4. Foreign Languages: Spanish I, Spanish II, Latin I, Latin II, French I, French II.
5. Math: Algebra I, Geometry, Composite Math, 10th Grade Math,

General Math, Algebra II, Trigonometry, Statistics, Elementary Functions.

6. Vocational Home Economics: Home Economics I, Home Economics II, Home Economics III, Home Economics IV, Clothing, Family Relations, Textile.

7. All Other Vocational: Agriculture, Mechanical Drawing, D E I, D E II, D O, T & I, Drafting Shop.

8. Business: Typing I, Typing II, Typing III, Bookkeeping I, Bookkeeping II, Shorthand I, Shorthand II, Office Practice, General Business, Business Law, Business Math, Business English, Consumer Economics, Secretarial Science I, Secretarial Science II, Steno I, Clerical Practice, Secretarial Training, Transcription, Cooperative Office Work Experience, Economics, Business Machines.

High school size was obtained from records of the Superintendent of Public Instruction, Oklahoma State Department of Education. The high school size was computed for grade levels ten, eleven, and twelve. Out-of-state high school size was determined by high school officials of the high schools involved. The high school size was determined for the year the student graduated from high school.



## CHAPTER IV

### PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to determine the relationship between student characteristics and collegiate termination of vocational business certificate holders. This chapter presents the results of the analyses of the data. Conclusions and recommendations based on these results are presented in Chapter V.

The analyses are presented in five sections. Parametric characteristics are presented for all students in the first section. In the second section comparisons are made of responding and non-responding students. In the third section comparisons are made of parametric characteristics of students who terminated and those who continued. Presented in the fourth section are comparisons of non-parametric characteristics of students who terminated and those who continued. Finally, statistical analyses are presented on the non-parametric characteristics of students who terminated and those who continued.

Three tables are presented on the parametric characteristics of the certificate holders. Table XVI shows the mean student characteristics of the total students by institution. Table XVII shows the mean student characteristics of the total students by type of institution. Table XVIII shows the mean student characteristics of the total students by year.

TABLE XVI

## MEAN STUDENT CHARACTERISTICS OF THE TOTAL STUDENTS BY INSTITUTION

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
Age	20.4	20.6	20.1	20.5	19.8	19.3
English ACT Standard Score	22.46	21.58	20.19	20.58	18.99	18.20
Mathematics ACT Standard Score	18.83	19.49	16.46	17.11	15.17	14.51
Social Studies ACT Standard Score	20.41	19.69	17.87	18.63	16.81	15.91
Natural Sciences ACT Standard Score	20.25	19.03	17.19	19.53	16.98	15.52
Composite ACT Standard Score	20.63	20.10	18.00	19.21	17.06	16.10
English ACT Percentile	67.32	60.67	50.89	55.11	43.23	38.78
Mathematics ACT Percentile	45.75	49.19	33.49	34.79	27.74	26.56
Social Studies ACT Percentile	49.55	45.49	37.33	41.32	30.61	29.47
Natural Sciences ACT Percentile	47.70	41.67	32.87	43.58	31.14	25.86
Composite ACT Percentile	51.48	48.79	35.27	42.16	28.97	25.25
Miles Traveled From HS to College	84.39	80.52	47.41	67.89	46.88	21.52
Semesters of HS Biological and Physical Sciences	3.75	3.71	3.41	3.26	3.59	3.17
HSGPA in Biological and Physical Sciences	3.29	3.13	2.88	2.96	3.19	2.50
Semesters of HS Social Studies	5.46	5.85	5.33	5.11	4.94	5.90
HSGPA in Social Studies	3.34	3.15	3.21	3.13	3.33	2.75
Semesters of HS English	8.62	8.76	8.44	8.79	8.66	8.58
HSGPA in English	3.44	3.19	3.26	3.33	3.40	2.90
Semesters of HS Foreign Languages	4.29	4.97	3.51	3.56	2.81	3.58
HSGPA in Foreign Languages	3.16	3.09	3.00	3.18	3.11	2.71
Semesters of HS Mathematics	4.98	5.75	4.56	4.11	4.23	4.14

TABLE XVI (Continued)

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
HSGPA in Mathematics	3.12	2.87	2.87	3.04	3.05	2.46
Semesters of HS Vocational Home Economics	3.92	3.17	3.70	4.93	5.35	4.89
HSGPA in Vocational Home Economics	3.53	3.57	3.30	3.33	3.53	3.11
Semesters of All Other HS Vocational Programs	2.80	2.00	2.33	----	2.00	2.67
HSGPA in All Other Vocational Programs	4.00	3.00	3.43	---	3.50	2.67
Semesters of HS Business	8.07	6.86	9.23	6.84	7.27	7.42
HSGPA in Business	3.58	3.44	3.35	3.22	3.46	2.80
Semesters of HS Academic Credits	37.02	37.94	36.23	33.89	34.99	35.43
Academic HSGPA	3.39	3.20	3.19	3.21	3.35	2.80
Initial College GPA	2.86	2.61	2.70	2.77	2.69	2.77
Overall GPA at the Time the Business Certificate Was Received	2.73	2.66	2.66	2.69	2.61	2.73
High School Size	1042.03	1331.04	875.82	464.21	161.68	591.77

TABLE XVII

## MEAN STUDENT CHARACTERISTICS OF THE TOTAL STUDENTS BY TYPE OF INSTITUTION

Student Characteristics	Junior College	Colleges	Universities	Total
Age	19.3	20.0	20.5	20.1
English ACT Standard Score	18.20	19.62	22.20	20.55
Mathematics ACT Standard Score	14.51	15.86	19.03	17.06
Social Studies ACT Standard Score	15.91	17.41	20.20	18.42
Natural Sciences ACT Standard Score	15.52	17.31	19.89	18.18
Composite ACT Standard Score	16.10	17.64	20.47	18.66
English ACT Percentile	38.78	47.40	65.33	54.05
Mathematics ACT Percentile	26.56	30.70	46.78	37.22
Social Studies ACT Percentile	29.47	34.30	48.33	39.80
Natural Sciences ACT Percentile	25.86	33.02	45.90	37.64
Composite ACT Percentile	25.25	32.73	50.67	39.56
Miles Traveled From HS to College	21.52	49.10	83.24	59.99
Semesters of HS Biological and Physical Sciences	3.17	3.49	3.74	3.55
HSGPA in Biological and Physical Sciences	2.50	3.04	3.24	3.05
Semesters of HS Social Studies	5.90	5.11	5.58	5.44
HSGPA in Social Studies	2.75	3.26	3.28	3.19
Semesters of HS English	8.58	8.59	8.67	8.62
HSGPA in English	2.90	3.34	3.36	3.28
Semesters of HS Foreign Languages	3.58	3.26	4.53	4.05
HSGPA in Foreign Languages	2.71	3.06	3.13	3.06
Semesters of HS Mathematics	4.14	4.34	5.21	4.70

TABLE XVII (Continued)

Student Characteristics	Junior College	Colleges	Universities	Total
HSGPA in Mathematics	2.46	2.98	3.05	2.93
Semesters of HS Vocational Home Economics	4.89	4.73	3.70	4.36
HSGPA in Vocational Home Economics	3.11	3.43	3.54	3.42
Semesters of All Other HS Vocational Programs	2.67	2.14	2.57	2.41
HSGPA in All Other Vocational Programs	2.67	3.47	3.71	3.43
Semesters of HS Business	7.42	8.01	7.72	7.79
HSGPA in Business	2.80	3.39	3.54	3.36
Semesters of HS Academic Credits	35.43	35.38	37.29	36.24
Academic HSGPA	2.80	3.27	3.33	3.23
Initial College GPA	2.77	2.70	2.78	2.75
Overall GPA at the Time the Business Certificate Was Received	2.73	2.63	2.71	2.68
High School Size	591.77	474.07	1128.48	784.60

TABLE XVIII

## MEAN STUDENT CHARACTERISTICS OF THE TOTAL STUDENTS BY YEAR

Student Characteristics	1963	1964	1965	1966	1967
Age	19.8	19.8	20.3	20.3	20.1
English ACT Standard Score	20.23	21.15	20.70	20.70	20.12
Mathematics ACT Standard Score	17.17	16.31	16.31	18.14	17.02
Social Studies ACT Standard Score	17.72	18.00	17.86	19.22	18.82
Natural Sciences ACT Standard Score	18.42	17.78	17.38	18.73	18.35
Composite ACT Standard Score	18.43	18.38	18.17	19.31	18.76
English ACT Percentile	51.66	57.62	55.52	55.16	51.25
Mathematics ACT Percentile	36.94	34.54	33.95	42.19	36.92
Social Studies ACT Percentile	36.37	36.47	38.05	48.31	42.29
Natural Sciences ACT Percentile	39.60	35.62	34.78	39.79	37.71
Composite ACT Percentile	38.69	37.45	36.84	43.66	39.69
Miles Traveled From HS to College	52.21	53.27	62.03	71.53	57.06
Semesters of HS Biological and Physical Sciences	3.26	3.53	3.32	3.96	3.54
HSGPA in Biological and Physical Sciences	3.08	3.18	2.84	3.11	3.04
Semesters of HS Social Studies	5.16	5.29	5.38	5.73	5.52
HSGPA in Social Studies	3.25	3.31	3.10	3.26	3.08
Semesters of HS English	8.48	8.55	8.58	8.64	8.78
HSGPA in English	3.28	3.40	3.14	3.37	3.23
Semesters of HS Foreign Languages	3.74	4.06	4.17	3.96	4.22
HSGPA in Foreign Languages	2.82	3.25	2.91	3.16	3.09
Semesters of HS Mathematics	4.92	4.67	4.43	4.94	4.54

TABLE XVIII (Continued)

Student Characteristics	1963	1964	1965	1966	1967
HSGPA in Mathematics	3.01	3.05	2.73	3.04	2.83
Semesters of HS Vocational Home Economics	4.40	4.36	4.46	4.16	4.43
HSGPA in Vocational Home Economics	3.54	3.50	3.32	3.43	3.36
Semesters of All Other HS Vocational Programs	2.00	2.67	2.00	2.17	2.67
HSGPA in All Other Vocational Programs	4.00	3.43	4.00	3.30	3.17
Semesters of HS Business	7.12	7.97	8.26	7.48	8.05
HSGPA in Business	3.29	3.45	3.29	3.48	3.30
Semesters of HS Academic Credits	34.73	36.45	36.13	36.69	36.81
Academic HSGPA	3.25	3.35	3.09	3.30	3.15
Initial College GPA	2.75	2.73	2.67	2.83	2.74
Overall GPA at the Time the Business Certificate Was Received	2.75	2.66	2.64	2.74	2.63
High School Size	653.48	675.51	809.27	789.06	920.80

Parametric Characteristics of the  
Certificate Holders

Age. For universities the mean age was 20.5, colleges 20.0, and the junior college 20.3. Mean ages for institutions ranged from 20.7 at OSU to 19.3 years at NOC.

English ACT. The mean was 20.55 for the English ACT standard score; universities had 22.20; colleges had 19.17; and the junior college had 18.20. The range was from a high mean English ACT standard score for OSU of 22.46 to a low of 18.20 for the junior college. The mean percentile in English was 54.05; universities had a percentile of 65.33; colleges had a percentile of 47.40; and the junior college had a percentile of 38.78. The high mean percentile was 67.32 at OSU.

Mathematics ACT. The total mathematics ACT standard score was 17.06. Universities had a standard score of 19.03; colleges had a standard score of 15.86; and the junior college had a standard score of 14.51. The highest mean mathematics ACT standard score was 19.49 at OU. OU also had the high percentile of 49.19. The mathematics ACT percentile for the total students was 37.22, with a university mean of 46.78; a college mean of 30.70; and a junior college mean of 26.56.

Social Studies ACT. The mean social studies ACT standard score was 18.42 with universities, colleges, and the junior college, respectively, recording means of 20.20, 17.41, and 15.91. OSU had the highest mean social studies ACT standard score with 20.41. The mean social studies ACT percentile for the total students was 39.80, with 48.33, 34.30, and 29.47 recorded for universities, colleges, and the junior college, respectively. The highest mean percentile was OSU's 49.55.



Natural Sciences ACT. The mean natural science ACT standard score was 18.18, while universities had a mean of 19.89; colleges, 17.31; and the junior college, 15.52. OSU again had the highest mean standard score and percentile with 20.25 and 47.60, respectively. When the mean natural science percentiles were examined, the total student mean percentile was 37.64. Means of 45.90, 33.02, and 25.86 were recorded for universities, colleges, and the junior college, respectively.

Composite ACT. The mean composite ACT standard score was 18.66, with a university mean of 20.47, a college mean of 17.64, and a junior college mean of 16.10. When the institutions were ranked, the following order occurred on mean composite ACT standard scores: OSU, 20.63; OU, 20.10; ECSC, 19.21; CSC, 18.00; SSC, 17.06; and NOC, 16.10. The mean composite ACT percentile was 39.56. Universities recorded a percentile of 50.67; college, 32.73; and the junior college, 25.25. OSU, OU, CSC, ECSC, SSC, and NOC had the following mean composite ACT percentiles: 51.48, 48.16, 35.27, 28.97, and 25.25.

Miles Traveled From High School to College. The mean miles traveled from high school to college was 59.99. Universities had a mean in miles traveled of 83.24; colleges had 49.10; and the junior college had 21.52 miles.

Semesters of High School Biological and Physical Science. The mean semesters attempted of high school biological and physical sciences were 3.55. Universities recorded mean semesters of 3.74; colleges, 3.49; and the junior college, 3.17. (For all high school courses the mean semesters were for students who attempted such course, but did not consider the mean semesters for all students, since students who did not take such courses were excluded from the computation.)

HSGPA in Biological and Physical Science. The mean HSGPA for the total students was 3.05. Universities had a HSGPA of 3.24; colleges, 3.26; and the junior college, 2.75. The range in HSGPA was from 3.34 at OSU to 2.75 at NOC.

Semesters of High School English. The mean semesters of high school English were 8.62. The university mean was 8.67; the college mean was 8.59; and the junior college mean was 8.58. ECSC had the greatest mean semesters of high school English, 8.79.

HSGPA in English. The mean HSGPA was 3.28. Universities had a mean GPA of 3.36; colleges, 3.34; and the junior college, 2.90. At OSU the mean HSGPA in English was 3.44.

Semesters of High School Foreign Languages. For students who attempted courses in high school foreign languages, the mean semesters were 4.05. Universities had mean semesters of high school foreign languages of 4.53 semesters; colleges had 3.26 semesters; and the junior college had 3.58 semesters. The range in mean semesters of foreign languages for students who attempted such courses was from 4.97 at OU to 2.81 at SSC.

HSGPA for Foreign Languages. The mean HSGPA was 3.06. Universities had a HSGPA of 3.13; colleges had a HSGPA of 3.06; and the junior college had a HSGPA of 2.71. The range mean HSGPA in foreign languages was from 3.18 at ECSC to 2.71 at NOC.

Semester of High School Mathematics. The mean semesters of high school mathematics were 4.70. The junior college had 4.14 semesters; the colleges had 4.34 semesters; and the universities had 5.21 semesters. The range was from 5.75 semesters at OU to 4.11 semesters at ECSC.

HSGPA in Mathematics. The mean HSGPA was 2.93. While the junior college had a mean of 2.46, the colleges had 2.98; and the universities had 3.05. The mean HSGPA ranged from a low in the junior college of 2.46 to a high of 3.12 at OSU.

Semesters of High School Vocational Home Economics. The mean semesters for those who attempted high school home economics were 4.36. Universities had mean semesters of 3.70; colleges, 4.72 semesters; and the junior college, 4.89 semesters. The range was from 5.35 semesters at SSC to 3.17 semesters at OU.

HSGPA for Home Economics. The mean HSGPA was 3.42. For universities the mean was 3.54; colleges, 3.42; and the junior college, 3.11. The range was from 3.57 at OU to 3.11 at NOC.

Semesters of Other High School Vocational Programs. For students who enrolled in other vocational programs in high school, the mean semesters were 2.41. Universities had 2.57; colleges, 2.14; and the junior college, 2.67 mean semesters. OSU reported the greatest number of mean semesters for students enrolled in vocational programs with a mean of 2.80 semesters, while ECSC did not have any students enrolled in other vocational programs.

HSGPA in Other Vocational Programs. The mean HSGPA was 3.43. The mean HSGPA for universities was 3.71; colleges, 3.47; and the junior college, 2.67.

Semesters of High School Business. For students who attempted high school business courses the mean semesters were 7.79. For universities the mean was 7.72; colleges, 8.01; and for the junior college, 7.42. The range was from mean semesters of 9.23 at CSC to 6.84 at ECSC.

HSGPA for Business. The mean HSGPA in business was 3.36. Universities had a mean HSGPA of 3.54; colleges, 3.39; and the junior college, 2.80.

Total Semesters of Academic Credits. The mean semesters of academic credits were 36.24. Universities had mean semesters of 37.29; colleges, 35.38; and the junior college, 35.43. The range was from 37.94 at OU to 33.89 at ECSC.

HSGPA in Academic Credits. The mean HSGPA was 3.23. Universities had a HSGPA of 3.33; college had a HSGPA of 3.27; and the junior college had a HSGPA of 2.80. The range was from 3.39 at OSU to 2.80 at NOC.

Initial College GPA. The initial college GPA for the junior college was 2.77; for colleges, 2.70; and for universities, 2.78. The mean initial college GPA was 2.75. The range was from 2.86 at OSU to 2.61 at SSC.

GPA at the Time the Business Certificate Was Received. The mean GPA was 2.68. The universities had a mean GPA of 2.71; colleges had a mean GPA of 2.63; and the junior college had a mean GPA of 2.73. The range was from 2.73 at OSU to 2.61 at SSC.

Major Before Starting Business Certificate Program. Students who were enrolled in other programs before declaring the certificate program were enrolled in the following programs: Business Education, 4 students; Home Economics, 14; General Business, 1; English, 1; and General Education program at the lower-division level, 56.

GPA in Courses Before Entering the Business Certificate Program. The mean GPA was 2.50. Universities had a mean GPA of 2.50; colleges, 2.45; and the junior college, 3.20. The range was from 3.20 at NOC to

1.97 at SSC.

High School Size. The mean high school size was 784.60 students. Universities had a mean high school size of 1,128.48 students; colleges, 474.07 students; and the junior college, 591.77 students. The range was from 1,331.04 students at OU to 161.68 students at SSC. Other high school sizes were 1,042.03 at OSU, 875.82 at CSC, and 464.21 students at ECSC.

#### Comparison of Responding and Non-Responding Students

In this section comparisons of parametric data are made between responding and non-responding students. Data are reported for student characteristics found to be different by the analysis of variance statistical technique. The computed F's for the mean of student characteristics of responding and non-responding students are shown in Appendixes H and I.

Six tables are presented that compare the mean parametric data of the responding and non-responding students. Table XIX shows the mean student characteristics of those who responded by institution. Table XX shows the mean student characteristics of those who did not respond by institution. Table XXI shows the mean student characteristics of those who responded by type of institution. Table XXII shows the mean student characteristics of those who did not respond by type of institution. Table XXIII shows the mean student characteristics of those who responded by year. Table XXIV shows the mean student characteristics of those who did not respond by year.

English ACT. Only in 1966 was the difference between the mean score of those who responded and the mean score of those who did not

TABLE XIX

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO RESPONDED BY INSTITUTION

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
Age	20.4	20.6	20.0	20.5	19.8	19.3
English ACT Standard Score	22.40	21.86	20.30	20.56	18.85	18.30
Mathematics ACT Standard Score	18.89	20.65	16.78	16.89	15.04	14.16
Social Studies ACT Standard Score	20.51	19.88	17.45	18.94	16.81	16.30
Natural Sciences ACT Standard Score	20.08	19.53	17.42	19.67	16.88	15.54
Composite ACT Standard Score	20.60	20.71	18.08	19.28	16.97	16.16
English ACT Percentile	66.75	62.10	51.98	55.00	42.29	39.23
Mathematics ACT Percentile	45.96	54.53	35.23	33.67	26.62	26.07
Social Studies ACT Percentile	50.03	46.10	35.65	43.06	30.48	30.54
Natural Sciences ACT Percentile	46.66	43.86	33.87	44.44	30.74	26.05
Composite ACT Percentile	51.26	52.24	35.90	42.72	28.31	25.84
Miles Traveled From HS to College	85.94	85.82	37.83	67.22	47.47	18.42
Semesters of HS Biological and Physical Sciences	3.72	3.94	3.36	3.22	3.58	3.14
HSGPA in Biological and Physical Sciences	3.29	3.15	2.82	2.96	3.17	2.44
Semesters of HS Social Studies	5.52	5.98	5.27	5.17	5.04	5.98
HSGPA in Social Studies	3.35	3.12	3.16	3.16	3.35	2.67
Semesters of HS English	8.58	8.73	8.27	8.78	8.58	8.60
HSGPA in English	3.44	3.20	3.23	3.34	3.39	2.85
Semesters of HS Foreign Languages	4.35	4.89	3.49	3.50	2.69	3.62
HSGPA in Foreign Languages	3.10	3.11	2.98	3.35	3.10	2.67
Semesters of HS Mathematics	5.01	5.84	4.56	4.00	4.23	4.21

TABLE XIX (Continued)

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
HSGPA in Mathematics	3.12	2.85	2.82	3.03	3.08	2.35
Semesters of HS Vocational Home Economics	3.99	3.21	3.96	5.00	5.41	4.77
HSGPA in Vocational Home Economics	3.53	3.57	3.32	3.35	3.52	3.07
Semesters of All Other HS Vocational Programs	2.80	2.00	2.33	----	2.00	3.00
HSGPA in All Other Vocational Programs	4.00	4.00	3.43	----	3.50	2.00
Semesters of HS Business	8.04	6.96	9.45	6.89	7.24	6.93
HSGPA in Business	3.56	3.39	3.34	3.22	3.45	2.72
Semesters of HS Academic Credits	37.05	38.20	36.40	33.72	34.93	35.32
Academic HSGPA	3.38	3.18	3.16	3.23	3.35	2.74
Initial College GPA	2.86	2.63	2.69	2.80	2.67	2.79
Overall GPA at the Time the Business Certificate Was Received	2.73	2.68	2.65	2.69	2.60	2.73
High School Size	1033.21	1347.95	872.66	427.22	163.29	690.00

TABLE XX

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO DID NOT RESPOND BY INSTITUTION

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
Age	20.4	20.7	20.3	19.6	19.9	19.5
English ACT Standard Score	23.14	20.83	19.84	21.00	20.30	17.95
Mathematics ACT Standard Score	18.21	16.33	15.42	21.00	16.30	15.41
Social Studies ACT Standard Score	19.43	19.17	19.21	13.00	16.80	14.91
Natural Sciences ACT Standard Score	22.07	17.67	16.47	17.00	17.90	15.45
Composite ACT Standard Score	20.93	18.44	17.74	18.00	17.90	15.95
English ACT Percentile	73.14	56.78	47.42	57.00	51.80	37.64
Mathematics ACT Percentile	43.64	34.67	28.00	55.00	38.00	27.82
Social Studies ACT Percentile	44.64	43.83	42.63	10.00	31.80	26.68
Natural Sciences ACT Percentile	58.36	35.72	29.74	28.00	34.80	25.36
Composite ACT Percentile	53.71	39.39	33.26	32.00	35.00	23.73
Miles Traveled From HS to College	68.57	66.11	77.63	80.00	41.50	29.55
Semesters of HS Biological and Physical Sciences	4.00	3.11	3.58	4.00	3.70	3.24
HSGPA in Biological and Physical Sciences	3.29	3.07	3.04	3.00	3.36	2.68
Semesters of HS Social Studies	4.93	5.50	5.53	4.00	4.00	5.68
HSGPA in Social Studies	3.29	3.23	3.35	2.50	3.13	2.95
Semesters of HS English	9.07	8.83	9.00	9.00	9.40	8.55
HSGPA in English	3.43	3.18	3.39	3.10	3.47	3.04
Semesters of HS Foreign Languages	3.75	5.17	3.60	4.00	3.40	3.43
HSGPA in Foreign Languages	3.64	3.03	3.06	1.80	3.20	2.89
Semesters of HS Mathematics	4.71	5.50	4.53	6.00	4.20	3.95



TABLE XX (Continued)

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
HSGPA in Mathematics	3.18	2.94	3.03	3.30	2.84	2.76
Semesters of HS Vocational Home Economics	3.20	3.00	2.93	4.00	4.80	5.22
HSGPA in Vocational Home Economics	3.62	3.57	3.25	3.00	3.65	3.22
Semesters of All Other HS Vocational Programs	-----	2.00	-----	-----	-----	2.00
HSGPA in All Other Vocational Programs	-----	2.00	-----	-----	-----	4.00
Semesters of HS Business	8.43	6.61	8.53	6.00	7.50	8.76
HSGPA in Business	3.71	3.58	3.37	3.20	3.55	3.02
Semesters of HS Academic Credits	36.71	37.22	35.68	37.00	35.50	35.73
Academic HSGPA	3.48	3.24	3.28	2.90	3.36	2.98
Initial College GPA	2.81	2.55	2.72	2.20	2.83	2.74
Overall GPA at the Time the Business Certificate Was Received	2.76	2.61	2.67	2.70	2.70	2.71
High School Size	1132.14	1285.00	885.78	1130.00	147.00	337.27

TABLE XXI

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO RESPONDED BY TYPE OF INSTITUTION

Student Characteristics	Junior College	Colleges	Universities	Total
Age	19.3	20.0	20.4	20.1
English ACT Standard Score	18.30	19.54	22.26	20.62
Mathematics ACT Standard Score	14.16	15.86	19.34	17.22
Social Studies ACT Standard Score	16.30	17.27	20.35	18.55
Natural Sciences ACT Standard Score	15.54	17.37	19.94	18.30
Composite ACT Standard Score	16.16	17.61	20.63	18.80
English ACT Percentile	39.23	47.08	65.56	54.50
Mathematics ACT Percentile	26.07	30.43	48.15	37.97
Social Studies ACT Percentile	30.54	33.66	49.03	40.29
Natural Sciences ACT Percentile	26.05	33.31	45.94	38.12
Composite ACT Percentile	25.84	32.54	51.51	40.34
Miles Traveled From HS to College	18.42	46.15	85.91	60.63
Semesters of HS Biological and Physical Sciences	3.14	3.46	3.77	3.56
HSGPA in Biological and Physical Sciences	2.44	3.02	3.25	3.05
Semesters of HS Social Studies	5.98	5.14	5.64	5.48
HSGPA in Social Studies	2.67	3.26	3.29	3.19
Semesters of HS English	8.60	8.49	8.62	8.56
HSGPA in English	2.85	3.33	3.38	3.29
Semesters of HS Foreign Languages	3.62	3.19	4.51	4.03
HSGPA in Foreign Languages	2.67	3.07	3.11	3.04
Semesters of HS Mathematics	4.21	4.32	5.22	4.72

TABLE XXI (Continued)

Student Characteristics	Junior College	Colleges	Universities	Total
HSGPA in Mathematics	2.35	2.98	3.05	2.93
Semesters of HS Vocational Home Economics	4.77	4.91	3.79	4.44
HSGPA in Vocational Home Economics	3.07	3.44	3.54	3.42
Semesters of All Other HS Vocational Programs	3.00	2.14	2.67	2.47
HSGPA in All Other Vocational Programs	2.00	3.47	4.00	3.49
Semesters of HS Business	6.93	7.99	7.77	7.74
HSGPA in Business	2.72	3.39	3.52	3.35
Semesters of HS Academic Credits	35.32	35.33	37.34	36.25
Academic HSGPA	2.74	3.27	3.33	3.22
Initial College GPA	2.79	2.69	2.80	2.76
Overall GPA at the Time the Business Certificate Was Received	2.73	2.63	2.72	2.68
High School Size	690.00	443.25	1113.54	784.78

TABLE XXII

MEAN STUDENT CHARACTERISTICS FOR THOSE WHO DID NOT RESPOND BY TYPE OF INSTITUTION

Student Characteristics	Junior College	Colleges	Universities	Total
Age	19.5	20.1	20.5	20.1
English ACT Standard Score	17.95	20.03	21.84	20.18
Mathematics ACT Standard Score	15.41	15.90	17.16	16.25
Social Studies ACT Standard Score	14.91	18.20	19.28	17.75
Natural Sciences ACT Standard Score	15.45	16.97	19.59	17.57
Composite ACT Standard Score	15.95	17.80	19.53	17.98
English ACT Percentile	37.64	49.20	63.94	51.79
Mathematics ACT Percentile	27.82	32.23	38.59	33.50
Social Studies ACT Percentile	26.68	37.93	44.19	37.37
Natural Sciences ACT Percentile	25.36	31.37	45.63	35.23
Composite ACT Percentile	23.73	33.80	45.66	35.68
Miles Traveled From HS to College	29.55	65.67	67.17	56.79
Semesters of HS Biological and Physical Sciences	3.24	3.63	3.50	3.48
HSGPA in Biological and Physical Sciences	2.68	3.15	3.17	3.03
Semesters of HS Social Studies	5.68	4.97	5.25	5.26
HSGPA in Social Studies	2.95	3.25	3.26	3.18
Semesters of HS English	8.55	9.13	8.94	8.90
HSGPA in English	3.04	3.41	3.29	3.27
Semesters of HS Foreign Languages	3.43	3.56	4.60	4.13
HSGPA in Foreign Languages	2.89	3.03	3.27	3.15
Semesters of HS Mathematics	3.95	4.47	5.16	4.60

TABLE XXII (Continued)

Student Characteristics	Junior College	Colleges	Universities	Total
HSGPA in Mathematics	2.76	2.98	3.04	2.95
Semesters of HS Vocational Home Economics	5.22	3.69	3.11	3.95
HSGPA in Vocational Home Economics	3.22	3.40	3.59	3.41
Semesters of All Other HS Vocational Programs	2.00	----	2.00	2.00
HSGPA in All Other Vocational Programs	4.00	----	2.00	3.00
Semesters of HS Business	8.76	8.10	7.41	8.00
HSGPA in Business	3.02	3.43	3.64	3.41
Semesters of HS Academic Credits	35.73	35.67	37.00	36.19
Academic HSGPA	2.98	3.29	3.34	3.23
Initial College GPA	2.74	2.74	2.67	2.71
Overall GPA at the Time the Business Certificate Was Received	2.71	2.68	2.68	2.69
High School Size	337.27	647.66	1218.12	783.69

TABLE XXIII

MEAN STUDENT CHARACTERISTICS FOR THOSE WHO RESPONDED BY YEAR

Student Characteristics	1963	1964	1965	1966	1967
Age	19.8	19.8	20.2	20.3	20.1
English ACT Standard Score	20.52	20.95	20.77	21.04	20.02
Mathematics ACT Standard Score	17.49	16.31	16.66	18.39	16.92
Social Studies ACT Standard Score	18.16	17.85	17.95	19.69	18.57
Natural Sciences ACT Standard Score	18.51	17.53	17.62	19.26	18.22
Composite ACT Standard Score	18.78	18.22	18.35	19.73	18.61
English ACT Percentile	53.57	56.10	55.87	57.31	50.64
Mathematics ACT Percentile	38.37	34.24	35.48	43.57	36.50
Social Studies ACT Percentile	38.22	35.85	37.56	45.54	41.20
Natural Sciences ACT Percentile	40.46	34.31	35.61	42.26	36.85
Composite ACT Percentile	40.88	36.36	37.70	46.19	38.80
Miles Traveled From HS to College	57.46	49.66	58.48	73.65	58.23
Semesters of HS Biological and Physical Sciences	3.30	3.54	3.28	4.00	3.54
HSGPA in Biological and Physical Sciences	3.08	3.16	2.87	3.15	3.02
Semesters of HS Social Studies	5.31	5.46	5.27	5.71	5.55
HSGPA in Social Studies	3.25	3.30	3.13	3.30	3.06
Semesters of HS English	8.49	8.47	8.50	8.55	8.72
HSGPA in English	3.31	3.38	3.15	3.41	3.21
Semesters of HS Foreign Languages	3.81	4.06	4.04	3.93	4.22
HSGPA in Foreign Languages	3.30	3.19	2.95	3.17	3.00
Semesters of HS Mathematics	4.93	4.68	4.54	4.73	4.55

TABLE XXIII (Continued)

Student Characteristics	1963	1964	1965	1966	1967
HSGPA in Mathematics	3.00	3.08	2.76	3.06	2.79
Semesters of HS Vocational Home Economics	4.29	4.33	4.63	4.34	4.52
HSGPA in Vocational Home Economics	3.57	3.49	3.33	3.47	3.32
Semesters of All Other HS Vocational Programs	2.00	2.67	2.00	2.20	2.80
HSGPA in All Other Vocational Programs	4.00	3.43	4.00	3.80	3.00
Semesters of HS Business	6.96	7.63	8.33	7.47	8.10
HSGPA in Business	3.27	3.44	3.30	3.49	3.28
Semesters of HS Academic Credits	34.73	36.24	36.10	36.71	36.88
Academic HSGPA	3.25	3.34	3.11	3.33	3.13
Initial College GPA	2.74	2.72	2.72	2.84	2.74
Overall GPA at the Time the Business Certificate Was Received	2.75	2.62	2.67	2.75	2.62
High School Size	699.25	645.93	781.34	791.40	907.90

TABLE XXIV

MEAN STUDENT CHARACTERISTICS FOR THOSE WHO DID NOT RESPOND BY YEAR

Student Characteristics	1963	1964	1965	1966	1967
Age	19.9	19.8	20.5	20.3	20.1
English ACT Standard Score	19.21	21.79	20.29	18.83	20.93
Mathematics ACT Standard Score	16.05	16.32	14.29	16.72	17.79
Social Studies ACT Standard Score	16.16	18.47	17.36	16.61	20.79
Natural Sciences ACT Standard Score	18.11	18.58	15.93	15.78	19.43
Composite ACT Standard Score	17.21	18.89	17.07	17.00	19.93
English ACT Percentile	44.95	62.32	53.50	43.22	56.07
Mathematics ACT Percentile	31.89	35.47	25.00	34.50	40.21
Social Studies ACT Percentile	29.84	38.42	40.93	30.94	50.86
Natural Sciences ACT Percentile	36.58	39.68	29.93	26.06	44.43
Composite ACT Percentile	30.95	40.84	31.86	29.61	46.71
Miles Traveled From HS to College	33.68	64.47	82.86	59.72	47.86
Semesters of HS Biological and Physical Sciences	3.11	3.47	3.57	3.72	3.57
HSGPA in Biological and Physical Sciences	3.11	3.22	2.71	2.88	3.20
Semesters of HS Social Studies	4.63	4.79	6.00	5.83	5.29
HSGPA in Social Studies	3.27	3.34	2.89	3.06	3.26
Semesters of HS English	8.42	8.79	9.07	9.11	9.29
HSGPA in English	3.20	3.45	3.08	3.14	3.45
Semesters of HS Foreign Languages	3.58	4.07	4.88	4.20	4.22
HSGPA in Foreign Languages	2.86	3.38	2.68	3.04	3.71
Semesters of HS Mathematics	4.89	4.63	3.79	5.00	4.43



TABLE XXIV (Continued)

Student Characteristics	1963	1964	1965	1966	1967
HSGPA in Mathematics	3.06	2.97	2.56	2.94	3.16
Semesters of HS Vocational Home Economics	4.92	4.43	3.36	3.33	3.73
HSGPA in Vocational Home Economics	3.36	3.54	3.26	3.25	3.64
Semesters of All Other HS Vocational Programs	----	----	----	2.00	2.00
HSGPA in All Other Vocational Programs	----	----	----	2.00	4.00
Semesters of HS Business	7.72	9.05	7.86	7.56	7.64
HSGPA in Business	3.39	3.47	3.21	3.45	3.47
Semesters of HS Academic Credits	34.74	37.11	36.29	36.61	36.29
Academic HSGPA	3.25	3.37	2.98	3.16	3.36
Initial College GPA	2.81	2.79	2.39	2.74	2.76
Overall GPA at the Time the Business Certificate Was Received	2.76	2.78	2.45	2.67	2.73
High School Size	492.10	767.36	972.85	776.11	1022.14

respond significantly different. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.89 for 1966 when the mean English ACT standard scores were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.49 for 1966 when the mean English ACT percentiles were compared for those who responded and for those who did not respond. No pattern was developed when the differences in means between those who did not respond and those who responded were compared by institution. Certain institutions, including OSU, SSC, and ECSC, had means higher for those who did not respond, while OU, CSC, and NOC had means higher for those who responded. Except for the difference noted in 1966, little variation is noted except that the 1963, 1965, and 1966 means were higher for those who did not respond. The same relationships were present when institutions and years were compared by English ACT percentiles.

Mathematics ACT. For OSU, OU, and CSC, students who responded had higher mathematics ACT standard scores, while for SSC, ECSC and NOC, students who did not respond had higher mathematics ACT standard scores. In 1963, 1965, and 1966, ACT scores were higher for those who responded, while 1964 and 1967 had higher scores for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 9.94 for OU when the mean mathematics ACT standard scores were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.94 for universities when the mean mathematics ACT standard scores were compared for those who responded and for those who did not respond. The same characteristics are true when the mathematics ACT

percentiles were compared. The null hypothesis was rejected at the .05 level with an AOV computed F of 8.45 when the mean mathematics ACT percentiles were compared for those who responded and for those who did not respond for OU. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.70 for universities when the mean mathematics ACT percentiles were compared for those who responded and for those who did not respond.

Social Studies ACT. The following institutions had higher social studies ACT standard scores for those who responded: OSU, OU, SSC, ECSC, and NOC. For those who responded, the mean social studies ACT standard score was higher in 1963, 1965, and 1966. The null hypothesis was rejected at the .05 level with an AOV computed F of 6.84 for 1966 when the mean social studies ACT standard scores were compared for those who responded and for those who did not respond. ACT percentiles corresponded with those for the ACT standard scores. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.18 for 1966 when the mean social studies ACT percentiles were compared for those who responded and for those who did not respond.

Natural Science ACT. When means were compared for those who responded, OU, CSC, ECSC, and NOC had higher mean natural science ACT standard scores, while for those who did not respond, OSU and SSC had higher mean ACT standard scores. When years were compared, those who responded had higher mean scores in 1963, 1965, and 1966. The null hypothesis was rejected at the .05 level with an AOV computed F of 10.87 for 1966 when the mean natural science ACT standard scores were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed

F of 9.16 for 1966 when the mean for natural science ACT percentiles were compared for those who responded and for those who did not respond.

Composite ACT. Mean composite ACT standard scores for those who responded were higher for OU, CSC, ECSC, and NOC. The mean composite ACT standard scores were higher for those who responded in the years 1963, 1965, and 1966. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.92 for OU when the mean composite ACT standard scores were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 9.37 for 1966 when the mean composite ACT standard scores were compared for those who responded and for those who did not respond. Composite ACT percentiles for OU and the year 1966 also had differences between the mean of those who responded and the mean of those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.33 for OU when the mean composite ACT percentiles were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 8.58 for 1966 when the mean composite ACT percentiles were compared for those who responded and for those who did not respond.

Summary of ACT. When a comparison was made of the ACT scores for the institutions and years, differences were noted for OU and 1966. These differences were best shown by the rejection of the null hypothesis at the .05 level for the composite ACT standard scores and percentiles for OU and 1966.

Miles Traveled From High School to College. Students who responded had higher mean miles traveled for OSU, OU, and SSC. When the same data were examined by year, those who responded had higher mean

miles traveled for 1963, 1966, and 1967.

Semesters of High School Biological and Physical Sciences. For students who responded, the means were higher for only OU. Higher mean semesters for students who did not respond were recorded for all other institutions. The mean semesters taken for those who responded by year were higher in 1963, 1964, and 1966. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.28 for OU when mean semesters of high school biological and physical sciences were compared for those who responded and for those who did not respond.

Semesters of High School Social Studies. Only CSC had a higher number of mean semesters taken in social studies for those who did not respond. All other institutions had a higher number of mean semesters taken by students who responded.

Semesters of High School English. Only NOC students had greater mean semesters for those who did not respond than for those who did respond. The mean semesters of high school English were greater among those who responded in 1963, while for 1964 through 1967, the mean semesters were somewhat higher among those who did not respond. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.27 when mean semesters of high school English were compared for those who responded and for those who did not respond. The mean for those who responded was 8.56 semesters; those who did not respond had a mean of 8.90 semesters of high school English.

HSGPA in English. For SSC, CSC, and NOC, the means were somewhat higher for English HSGPA for those who did not respond. For 1964 and 1967, the students who did not respond had somewhat higher HSGPA in English, while in the other years the responded mean HSGPA was higher.

HSGPA in High School Mathematics. The mean HSGPA in high school mathematics was higher for those who did not respond for all institutions except SSC. The years 1963 and 1967 had higher means for those who did not respond, while other years had higher means for those who responded. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.91 for NOC when mean HSGPA in mathematics were compared for those who responded and for those who did not respond.

Semesters of High School Home Economics. The null hypothesis was rejected at the .05 level with an AOV computed F of 7.00 for state colleges when mean semesters of home economics were compared for those who responded and for those who did not respond. Only NOC had a greater number of semester hours in home economics for students who did not respond. In 1965, 1966, and 1967, the number of mean semesters taken was higher for those who responded.

Semesters of High School Business. The high school business mean semesters for those who responded were higher for OU, CSC, and ECSC. Mean semesters of business for those who did not respond were higher in 1963 and 1966. The null hypothesis was rejected at the .05 level with an AOV computed F of 8.71 for NOC when the mean semesters of high school business were compared for those who responded and for those who did not respond.

Initial College GPA. The mean GPA for those who did not respond was higher for SSC and CSC. The mean GPA for those who responded was higher for the other institutions. The mean GPA for those who did not respond was higher in 1963, 1964, and 1967. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.61 for 1963 when the mean initial college GPA was compared for those who responded and

for those who did not respond.

High School Size. The mean high school sizes were higher for the students who did not respond for OSU, CSC, and ECSC. The mean high school sizes were higher for those who did not respond in 1964, 1965, and 1967.

Homogeneity of Variance. All of the student characteristics were tested for homogeneous variances using the Edwards' test before computing the analysis of variance. The null hypotheses that were rejected are reported below.

The null hypothesis was rejected at the .05 level with a computed F of 5.84 and 3.87 for OSU and 1967, respectively, when the variances for HSGPA of foreign languages were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with a computed F of 2.15 for colleges when the variances for semesters of high school English were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with a computed F of 13.13 for CSC when the variances for miles traveled from high school to college were compared for those who responded and for those who did not respond.

The null hypothesis was rejected at the .05 level with a computed F of 2.87 and 2.44 for SSC when the variances for semesters of high school English and semesters of high school social studies, respectively, were compared for those who responded and for those who did not respond. The null hypothesis was rejected at the .05 level with a computed F of 2.03 and 2.85 for NOC when the variances for miles traveled from high school to college and size of high school, respectively, were compared for those who responded and for those who did not respond.

The null hypothesis was rejected at the .05 level with a computed F of 1.76 and infinite for 1966 when the variances for HSGPA in English and HSGPA in other vocational programs, respectively, were compared for those who responded and for those who did not respond. Results of the Edwards' test of homogeneity of variance significant at the .05 level for responding and non-responding student characteristics are shown in Appendix J.

#### Comparison of Students Who Terminated and Students Who Continued

In this section comparisons of parametric data are made between students who terminated and students who continued. Data are reported for student characteristics found to be different by the analysis of variance statistical technique. The computed F's for the means of student characteristics of those who terminated and those who continued are shown in Appendixes K and L.

Six tables are presented that compare the mean parametric data of the students who terminated and the students who continued. Table XXV shows the mean student characteristics of those who terminated by institutions. Table XXVI shows the mean student characteristics of those who continued by institution. Table XXVII shows the mean student characteristics of those who terminated by type of institution. Table XXVIII shows the mean student characteristics of those who continued by type of institution. Table XXIX shows the mean student characteristics of those who terminated by year. Table XXX shows the mean student characteristics of those who continued by year.



TABLE XXV

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO TERMINATED BY INSTITUTION

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
Age	20.2	20.5	20.0	20.6	19.8	19.3
English ACT Standard Score	22.33	22.25	19.85	20.64	19.16	18.06
Mathematics ACT Standard Score	18.52	20.82	16.56	17.21	15.20	13.90
Social Studies ACT Standard Score	20.09	20.64	16.92	18.79	17.15	16.25
Natural Sciences ACT Standard Score	19.62	20.36	17.13	20.79	17.35	15.50
Composite ACT Standard Score	20.26	21.21	17.63	19.64	17.32	16.00
English ACT Percentile	66.38	65.43	48.96	56.14	44.53	37.62
Mathematics ACT Percentile	44.45	55.61	34.02	35.14	27.57	25.10
Social Studies ACT Percentile	47.65	50.14	33.06	42.71	32.49	30.00
Natural Sciences ACT Percentile	44.31	48.36	32.65	50.64	32.84	25.87
Composite ACT Percentile	49.13	55.54	33.40	45.71	30.40	24.98
Miles Traveled From HS to College	92.26	86.07	34.62	75.00	47.80	18.17
Semesters of HS Biological and Physical Sciences	3.71	4.11	3.45	3.29	3.47	3.17
HSGPA in Biological and Physical Sciences	3.24	3.28	2.76	3.05	3.21	2.45
Semesters of HS Social Studies	5.49	5.89	5.37	5.21	5.20	6.08
HSGPA in Social Studies	3.27	3.19	3.13	3.22	3.39	2.65
Semesters of HS English	8.59	9.07	8.35	8.71	8.53	8.62
HSGPA in English	3.39	3.24	3.20	3.36	3.41	2.86
Semesters of HS Foreign Languages	4.36	4.67	3.33	3.67	2.60	3.67
HSGPA in Foreign Languages	3.06	3.23	2.90	3.47	3.20	2.68
Semesters of HS Mathematics	4.95	5.86	4.49	4.14	4.08	4.25

TABLE XXV (Continued)

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
HSGPA in Mathematics	3.04	2.91	2.80	3.07	3.14	2.31
Semesters of HS Vocational Home Economics	3.96	3.88	4.00	4.91	5.44	4.81
HSGPA in Vocational Home Economics	3.46	3.56	3.29	3.51	3.49	3.05
Semesters of All Other HS Vocational Programs	3.33	2.00	3.00	----	2.00	3.00
HSGPA in All Other Vocational Programs	4.00	4.00	3.65	----	3.67	2.00
Semesters of HS Business	8.06	7.07	9.23	6.43	7.28	6.77
HSGPA in Business	3.56	3.44	3.32	3.18	3.49	2.69
Semesters of HS Academic Credits	37.17	38.68	36.29	33.50	34.99	35.38
Academic HSGPA	3.33	3.25	3.13	3.27	3.39	2.72
Initial College GPA	2.78	2.63	2.66	2.87	2.71	2.77
Overall GPA at the Time the Business Certificate Was Received	2.63	2.75	2.61	2.71	2.62	2.71
High School Size	1037.52	1371.07	895.96	464.28	157.20	715.00

TABLE XXVI

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO CONTINUED BY INSTITUTION

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
Age	20.7	20.6	20.2	20.3	19.9	18.6
English ACT Standard Score	22.52	21.33	23.25	20.25	17.38	20.80
Mathematics ACT Standard Score	19.58	20.43	18.25	15.75	14.31	16.80
Social Studies ACT Standard Score	21.30	18.86	20.88	19.50	15.25	16.80
Natural Sciences ACT Standard Score	20.92	18.43	19.25	15.75	14.69	16.00
Composite ACT Standard Score	21.24	20.05	21.00	18.00	15.31	17.80
English ACT Percentile	67.44	57.67	71.63	51.00	31.75	56.00
Mathematics ACT Percentile	48.76	53.10	43.13	28.50	22.13	36.20
Social Studies ACT Percentile	54.46	40.71	52.50	44.25	21.06	36.20
Natural Sciences ACT Percentile	51.02	37.86	41.75	22.75	20.88	28.00
Composite ACT Percentile	55.22	47.86	52.13	32.25	18.50	34.80
Miles Traveled From HS to College	74.20	85.48	58.75	40.00	45.94	21.00
Semesters of HS Biological and Physical Sciences	3.74	3.71	2.75	3.00	4.13	2.80
HSGPA in Biological and Physical Sciences	3.38	2.98	3.23	2.65	2.95	2.26
Semesters of HS Social Studies	5.56	6.10	4.63	5.00	4.31	5.00
HSGPA in Social Studies	3.49	3.02	3.36	2.95	3.14	2.88
Semesters of HS English	8.56	8.29	7.75	9.00	8.81	8.40
HSGPA in English	3.53	3.14	3.36	3.28	3.30	2.80
Semesters of HS Foreign Languages	4.33	5.15	4.40	3.00	3.00	3.00
HSGPA in Foreign Languages	3.18	2.97	3.42	3.00	2.77	2.50
Semesters of HS Mathematics	5.12	5.81	5.00	3.50	4.94	3.80

TABLE XXVI (Continued)

Student Characteristics	OSU	OU	CSC	ECSC	SSC	NOC
HSGPA in Mathematics	3.26	2.76	2.98	2.88	2.78	2.76
Semesters of HS Vocational Home Economics	4.07	2.50	3.60	5.33	5.23	4.40
HSGPA in Vocational Home Economics	3.69	3.59	3.56	2.77	3.65	3.26
Semesters of All Other HS Vocational Programs	2.00	----	1.00	----	2.00	----
HSGPA in All Other Vocational Programs	4.00	----	3.00	----	3.00	----
Semesters of HS Business	8.00	6.79	10.88	8.50	7.06	8.60
HSGPA in Business	3.57	3.31	3.49	3.35	3.24	3.00
Semesters of HS Academic Credits	36.82	37.57	37.13	34.50	34.69	34.60
Academic HSGPA	3.47	3.10	3.36	3.08	3.18	2.90
Initial College GPA	3.03	2.63	2.90	2.55	2.52	2.98
Overall GPA at the Time the Business Certificate Was Received	2.92	2.59	2.91	2.63	2.49	2.96
High School Size	1025.20	1317.14	721.25	297.50	191.87	430.00

TABLE XXVII

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO TERMINATED BY TYPE OF INSTITUTION

Student Characteristics	Junior College	Colleges	Universities	Total
Age	19.3	20.0	20.3	20.0
English ACT Standard Score	18.06	19.56	22.31	20.37
Mathematics ACT Standard Score	13.90	15.90	19.05	16.78
Social Studies ACT Standard Score	16.25	17.23	20.21	18.22
Natural Sciences ACT Standard Score	15.50	17.61	19.79	18.10
Composite ACT Standard Score	16.00	17.67	20.48	18.47
English ACT Percentile	37.62	47.32	66.16	52.97
Mathematics ACT Percentile	25.10	30.70	47.03	36.07
Social Studies ACT Percentile	30.00	33.72	48.22	38.69
Natural Sciences ACT Percentile	25.87	34.54	45.25	37.23
Composite ACT Percentile	24.98	33.03	50.61	38.47
Miles Traveled From HS to College	18.17	45.64	90.83	58.50
Semesters of HS Biological and Physical Sciences	3.17	3.44	3.80	3.54
HSGPA in Biological and Physical Sciences	2.45	3.03	3.25	3.02
Semesters of HS Social Studies	6.08	5.26	5.59	5.52
HSGPA in Social Studies	2.65	3.28	3.25	3.16
Semesters of HS English	8.62	8.48	8.70	8.59
HSGPA in English	2.86	3.33	3.35	3.26
Semesters of HS Foreign Languages	3.67	3.11	4.44	3.89
HSGPA in Foreign Languages	2.68	3.07	3.11	3.03
Semesters of HS Mathematics	4.25	4.24	5.16	4.57

TABLE XXVII (Continued)

Student Characteristics	Junior College	Colleges	Universities	Total
HSGPA in Mathematics	2.31	3.01	3.01	2.89
Semesters of HS Vocational Home Economics	4.81	4.92	3.94	4.57
HSGPA in Vocational Home Economics	3.05	3.43	3.48	3.38
Semesters of All Other HS Vocational Programs	3.00	2.40	3.00	2.73
HSGPA in All Other Vocational Programs	2.00	3.66	4.00	3.48
Semesters of HS Business	6.77	7.91	7.83	7.69
HSGPA in Business	2.69	3.40	3.53	3.33
Semesters of HS Academic Credits	35.38	35.32	37.52	36.18
Academic HSGPA	2.72	3.28	3.31	3.20
Initial College GPA	2.77	2.71	2.74	2.73
Overall GPA at the Time the Business Certificate Was Received	2.71	2.62	2.66	2.65
High School Size	715.00	460.14	1114.71	754.58

TABLE XXVIII

MEAN STUDENT CHARACTERISTICS FOR THOSE WHO CONTINUED BY TYPE OF INSTITUTION

Student Characteristics	Junior College	Colleges	Universities	Total
Age	18.55	20.02	20.66	20.39
English ACT Standard Score	20.80	19.46	22.17	21.38
Mathematics ACT Standard Score	16.80	15.64	19.83	18.56
Social Studies ACT Standard Score	16.80	17.46	20.58	19.56
Natural Sciences ACT Standard Score	16.00	16.14	20.18	18.89
Composite ACT Standard Score	17.80	17.32	20.89	19.78
English ACT Percentile	56.00	45.89	64.55	59.12
Mathematics ACT Percentile	36.20	29.04	50.04	43.72
Social Studies ACT Percentile	36.20	33.36	50.39	45.13
Natural Sciences ACT Percentile	28.00	27.11	47.13	40.82
Composite ACT Percentile	34.80	30.07	53.04	45.98
Miles Traveled From HS to College	21.00	48.75	77.54	67.07
Semesters of HS Biological and Physical Sciences	2.80	3.56	3.73	3.64
HSGPA in Biological and Physical Sciences	2.26	2.99	3.26	3.14
Semesters of HS Social Studies	5.00	4.50	5.72	5.36
HSGPA in Social Studies	2.88	3.18	3.35	3.28
Semesters of HS English	8.40	8.54	8.48	8.49
HSGPA in English	2.80	3.31	3.41	3.36
Semesters of HS Foreign Languages	3.00	3.54	4.63	4.38
HSGPA in Foreign Languages	2.50	3.05	3.10	3.07
Semesters of HS Mathematics	3.80	4.75	5.32	5.10

TABLE XXVIII (Continued)

Student Characteristics	Junior College	Colleges	Universities	Total
HSGPA in Mathematics	2.76	2.85	3.11	3.03
Semesters of HS Vocational Home Economics	4.40	4.86	3.50	3.97
HSGPA in Vocational Home Economics	3.26	3.50	3.65	3.58
Semesters of All Other HS Vocational Programs	----	1.50	2.00	1.75
HSGPA in All Other Vocational Programs	----	3.00	4.00	3.50
Semesters of HS Business	8.60	8.36	7.67	7.90
HSGPA in Business	3.00	3.33	3.50	3.43
Semesters of HS Academic Credit	34.60	35.36	37.04	36.47
Academic HSGPA	2.90	3.22	3.36	3.30
Initial College GPA	2.98	2.63	2.91	2.84
Overall GPA at the Time the Business Certificate Was Received	2.96	2.63	2.82	2.78
High School Size	430.00	358.21	1111.54	875.96



TABLE XXIX

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO TERMINATED BY YEAR

Student Characteristics	1963	1964	1965	1966	1967
Age	19.5	19.8	20.1	20.2	20.1
English ACT Standard Score	20.52	20.82	20.28	20.59	19.93
Mathematics ACT Standard Score	17.22	15.82	15.97	18.07	16.55
Social Studies ACT Standard Score	17.77	17.29	17.43	19.41	18.54
Natural Sciences ACT Standard Score	18.31	17.40	17.23	19.07	18.19
Composite ACT Standard Score	18.58	17.93	17.78	19.41	18.42
English ACT Percentile	53.94	55.22	52.78	53.90	50.52
Mathematics ACT Percentile	37.54	32.20	32.46	41.89	35.01
Social Studies ACT Percentile	36.38	33.09	35.15	44.12	41.06
Natural Sciences ACT Percentile	39.15	33.84	33.85	41.53	36.82
Composite ACT Percentile	39.88	34.36	34.32	44.05	38.23
Miles Traveled From HS to College	47.81	51.89	57.15	75.68	54.22
Semesters of HS Biological and Physical Sciences	3.31	3.62	3.22	4.11	3.36
HSGPA in Biological and Physical Sciences	3.00	3.18	2.85	3.07	3.03
Semesters of HS Social Studies	5.44	5.38	5.14	5.85	5.66
HSGPA in Social Studies	3.13	3.31	3.12	3.27	3.05
Semesters of HS English	8.56	8.44	8.58	8.47	8.80
HSGPA in English	3.21	3.40	3.15	3.37	3.21
Semesters of HS Foreign Languages	3.82	3.84	3.74	3.77	4.16
HSGPA in Foreign Languages	2.84	3.24	2.99	3.05	3.01
Semesters of HS Mathematics	4.96	4.56	4.30	4.86	4.39

TABLE XXIX (Continued)

Student Characteristics	1963	1964	1965	1966	1967
HSGPA in Mathematics	2.89	3.08	2.73	3.05	2.78
Semesters of HS Vocational Home Economics	4.27	4.37	4.93	4.60	4.53
HSGPA in Vocational Home Economics	3.49	3.43	3.31	3.44	3.30
Semesters of All Other HS Vocational Programs	----	2.67	----	2.50	3.00
HSGPA in All Other Vocational Programs	----	3.43	----	4.00	3.00
Semesters of HS Business	6.29	7.62	8.19	7.59	8.24
HSGPA in Business	3.17	3.48	3.27	3.45	3.29
Semesters of HS Academic Credits	34.54	35.89	35.78	36.93	36.93
Academic HSGPA	3.16	3.35	3.11	3.29	3.13
Initial College GPA	2.71	2.68	2.67	2.81	2.74
Overall GPA at the Time the Business Certificate Was Received	2.74	2.57	2.63	2.70	2.61
High School Size	656.25	590.22	702.46	790.95	909.39

TABLE XXX

## MEAN STUDENT CHARACTERISTICS FOR THOSE WHO CONTINUED BY YEAR

Student Characteristics	1963	1964	1965	1966	1967
Age	20.4	19.6	20.7	20.8	20.2
English ACT Standard Score	20.53	21.36	22.65	22.26	20.30
Mathematics ACT Standard Score	18.16	17.86	19.29	19.26	18.04
Social Studies ACT Standard Score	19.16	19.64	19.94	20.44	18.67
Natural Sciences ACT Standard Score	19.00	17.93	19.12	19.78	18.30
Composite ACT Standard Score	19.26	19.14	20.53	20.59	19.19
English ACT Percentile	52.63	58.93	67.65	66.52	51.00
Mathematics ACT Percentile	40.47	40.79	47.00	48.11	41.07
Social Studies ACT Percentile	42.89	44.71	46.76	49.37	41.63
Natural Sciences ACT Percentile	43.79	35.79	42.35	44.22	36.96
Composite ACT Percentile	43.42	42.79	50.59	51.96	40.56
Miles Traveled From HS to College	81.84	42.50	63.53	68.15	70.56
Semesters of HS Biological and Physical Sciences	3.28	3.29	3.53	3.70	4.07
HSGPA in Biological and Physical Sciences	3.28	3.12	2.92	3.36	2.98
Semesters of HS Social Studies	5.00	5.71	5.76	5.33	5.19
HSGPA in Social Studies	3.55	3.27	3.21	3.36	3.07
Semesters of HS English	8.32	8.57	8.18	8.78	8.48
HSGPA in English	3.55	3.34	3.16	3.53	3.19
Semesters of HS Foreign Languages	3.78	4.67	4.71	4.29	4.39
HSGPA in Foreign Languages	2.71	3.06	2.86	3.45	2.99
Semesters of HS Mathematics	4.84	5.07	5.47	5.11	5.04

TABLE XXX (Continued)

Student Characteristics	1963	1964	1965	1966	1967
HSGPA in Mathematics	3.28	3.09	2.88	3.10	2.83
Semesters of HS Vocational Home Economics	4.36	4.20	3.09	3.63	4.50
HSGPA in Vocational Home Economics	3.81	3.69	3.44	3.55	3.43
Semesters of All Other HS Vocational Programs	2.00	----	2.00	1.00	2.00
HSGPA in All Other Vocational Programs	4.00	----	4.00	3.00	3.00
Semesters of HS Business	8.63	7.64	8.88	7.15	7.67
HSGPA in Business	3.52	3.29	3.44	3.60	3.26
Semesters of HS Academic Credits	35.21	37.36	37.29	36.11	36.74
Academic HSGPA	3.48	3.30	3.15	3.44	3.13
Initial College GPA	2.81	2.82	2.92	2.92	2.74
Overall GPA at the Time the Business Certificate Was Received	2.79	2.76	2.81	2.87	2.66
High School Size	807.89	825.00	1082.94	792.59	903.33

Age. Students from institutions who continued were older except for ECSC and NOC. Students who continued were older except for the year 1964 when students who terminated were older. A mean age of 20.0 was obtained for those who terminated and 20.4 for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 15.72 for 1963 when the mean ages were compared for those who terminated and for those who continued.

English ACT. OSU, CSC, and NOC had higher English Act standard scores for those who continued, while the other institutions had higher English ACT standard scores for those who terminated. Only for 1967 were higher English ACT standard scores recorded for those who terminated. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.46 when mean English ACT standard scores were compared for those who terminated and for those who continued. A mean standard score of 20.37 was obtained for those who terminated and 21.38 for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 7.44 and 5.50 when the English ACT standard scores for CSC and 1965, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.43 when the mean English ACT percentiles were compared for those who terminated and for those who continued. A mean percentile of 59.12 was obtained for those who continued and 52.97 for those who terminated. The null hypothesis was rejected at the .05 level with an AOV computed F of 6.72 when mean English ACT percentiles for CSC were compared for students who terminated and for students who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.74 and 4.81 when the mean

English ACT percentiles for 1965 and 1966, respectively, were compared for those who terminated and for those who continued.

Mathematics ACT. OU, SSC, and ECSC had higher mean mathematics ACT standard scores for those who terminated. The other institutions had higher mean scores for those who continued. A mean standard score of 18.56 was obtained for those who continued and 16.78 for those who terminated. All years had higher mean mathematics ACT standard scores for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 9.43 and 8.03 when mean mathematics ACT standard scores and mean mathematics ACT percentiles, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 6.39 and 5.62 when the mean mathematics ACT standard scores and mean mathematics ACT percentiles, respectively, for 1965 were compared for those who terminated and for those who continued. The mean percentile for those who continued was 43.7, and the mean percentile for those who terminated was 36.1.

Social Studies ACT. OSU, CSC, ECSC, and NOC had higher mean social studies ACT standard scores for those who continued. The mean for those who continued was 19.56 and for those who terminated was 18.22. The mean social studies ACT standard score was higher in all years for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.78 and 5.33 when the mean social studies ACT standard scores and social studies percentiles, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.39

for ECSC when the mean social studies ACT percentiles were compared for those who terminated and for those who continued.

Natural Sciences ACT. For OU, SSC, and ECSC, mean natural sciences ACT standard scores were higher for those who terminated. For the other institutions, means were higher for those who continued. The mean for those who continued was 18.89, while the mean for those who terminated was 18.10. In all years the natural sciences ACT standard scores were higher for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.57 for SSC when the mean natural sciences ACT standard scores were compared for those who terminated and for those who continued. For those who continued, the mean percentile was 40.82, and the mean percentile for those who terminated was 37.23. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.43 for SSC when the mean natural sciences ACT percentiles were compared for those who terminated and for those who continued.

Composite ACT. The mean composite ACT standard score for those who continued was 19.78, and the mean for those who terminated was 18.47. OU, SSC, and ECSC had higher mean composite ACT standard scores for those who terminated. For 1963 through 1967, the composite ACT standard score was higher for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 9.51 and 8.28 when the mean composite ACT standard scores and mean composite ACT percentiles, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 6.55 and 5.32 when mean composite ACT standard scores for SSC and CSC, respectively, were compared for those who

terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 7.98 and 8.27 when mean composite ACT standard scores and mean composite ACT percentiles, respectively, for 1965 were compared for those who terminated and for those who continued. The mean composite ACT percentile for those who continued was 45.98, and the mean for those who terminated was 38.47. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.28 when the mean composite ACT percentiles for CSC were compared for those who terminated and for those who continued.

Miles Traveled From High School to College. The mean miles traveled for those who continued was 67.07, and the mean miles traveled for those who terminated was 58.85. OSU, OU, SSC, and ECSC had higher mean miles traveled for those who terminated, and 1964 had higher mean miles traveled for those who terminated. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.13 when the mean miles traveled from high school to college for CSC were computed for those who terminated and for those who continued.

Semesters of High School Biological and Physical Sciences. The mean semesters of high school biological and physical sciences for those who attempted biological and physical sciences courses were 3.64 for those who continued and 3.54 semesters for those who terminated. The mean semesters for those who continued were 3.24 semesters and 3.51 semesters for those who terminated. OSU and SSC had higher mean semesters for those who continued, and only 1965 and 1967 had higher means for those who continued.

HSGPA in Biological and Physical Sciences. The mean HSGPA for those who continued was 3.14, and for those who terminated the mean was



3.02. OSU and CSC had higher HSGPA for those who continued, while 1964 and 1967 had higher HSGPA for those who terminated. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.24 when the HSGPA in biological and physical sciences for 1966 were compared for those who terminated and for those who continued.

Semesters of High School Social Studies. The mean semesters of high school social studies for those who continued were 5.36 and the mean for those who terminated was 5.52 semesters. OSU and OU had higher mean semesters for those who continued, while 1963, 1966, and 1967 mean semesters of social studies were greater for those who terminated.

HSGPA in Social Studies. The HSGPA in social studies for those who continued was 3.28, while the HSGPA for those who terminated was 3.17. OU, SSC, and ECSC had higher mean HSGPA for social studies for those students who terminated. Students who terminated in 1964 had higher mean HSGPA. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.23 when the mean HSGPA in social studies for OSU was compared for those who terminated and for those who continued.

Semesters of High School English. The mean semesters of high school English for those who continued were 8.49, while the mean for those who terminated was 8.59 semesters. OSU, OU, CSC, and NOC had higher mean semesters of high school English taken by those who terminated. In 1963, 1965, and 1967, higher mean semesters of high school English were taken by those who terminated.

HSGPA in English. Those who continued had a HSGPA in English of 3.36, while those who terminated had a HSGPA of 3.26. OSU and CSC had a higher mean HSGPA for those who continued. In 1964 and 1967, higher

HSGPA in English were attained for those who terminated. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.29 for 1963 when mean HSGPA in English were compared for those who terminated and for those who continued.

Semesters of High School Foreign Languages. Mean semesters for those who continued were 4.38, while the mean semesters for those who terminated were 3.89. The mean semesters of high school foreign languages for those who continued were 3.01 and for those who terminated 2.15. OU, SSC, and CSC had higher mean semesters of foreign languages for those who continued. In 1963 those who terminated had higher mean semester hours of foreign languages. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.88 when mean semesters of high school foreign languages were compared for those who continued and for those who terminated.

HSGPA for Foreign Languages. The mean HSGPA for those who continued was 3.08, while for those who terminated the mean was 3.03. OSU and CSC had higher mean HSGPA for those who continued. In 1966, students who continued had a higher HSGPA in foreign languages.

Semesters of High School Mathematics. The mean semesters for those who continued were 5.10, while the mean semesters for those who terminated were 4.59. OU, ECSC, and NOC had higher means for those who terminated. In 1963, students who terminated had higher mean semesters of mathematics. The null hypothesis was rejected at the .05 level with an AOV computed F of 8.88 when mean semesters of high school mathematics were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.85 for SSC when mean semesters of high school mathematics were

compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 12.87 and 4.40 when mean semesters of high school mathematics for the years 1965 and 1967, respectively, were compared for those who terminated and for those who continued.

HSGPA in Mathematics. The mean HSGPA was 3.02 for those who continued, while for those who terminated the mean HSGPA was 2.89. OSU, CSC, and NOC had higher mean HSGPA in mathematics for those who continued. All years had higher mean HSGPA for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.58 for 1963 when mean HSGPA in mathematics were compared for those who terminated and for those who continued.

Semesters of High School Home Economics. For those taking high school economics, the mean semesters for those who continued were 3.97 semesters, while the mean semesters for those who terminated were 4.57. For all students mean semesters for those who continued were 2.63, and the mean semesters for those who terminated were 3.67. OSU and ECSC had higher mean semesters of high school home economics for those who continued. The only year in which those who continued had higher mean semesters of high school home economics was 1963. The null hypothesis was rejected at the .05 level with an AOV computed F of 3.86 when mean semesters of high school home economics were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.97 when mean semesters of high school home economics for 1965 were compared for those who terminated and for those who continued.

HSGPA in Home Economics. For students who continued, the mean HSGPA was 3.58, while those who terminated had a mean of 3.38. ECSC had a higher mean HSGPA for those who terminated. All years recorded higher mean HSGPA in high school home economics for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 6.20 when mean HSGPA in high school home economics for ECSC were compared for those who terminated and for those who continued.

Semesters of Other High School Vocational Programs. Mean semesters for those who continued were 1.57, while those who terminated had mean semesters of 2.73 for students enrolled in other high school vocational programs. Mean semesters (with all students considered) for those who continued were .07 and for those who terminated, .10. Students who continued did not have other vocational programs at OU, ECSC, and NOC.

HSGPA in Other Vocational Programs. For those who continued, the average HSGPA was 3.50, and for those who terminated the average HSGPA was 3.48.

Semesters of High School Business. The mean semesters taken by students who enrolled in high school business were 7.90 semesters for those who continued and 7.69 for those who terminated. CSC, ECSC, and NOC had higher mean semesters for those who continued. The years, 1964 and 1967, had higher mean semesters of high school business for those who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 10.00 for 1963 when mean semesters of high school business were compared for those who terminated and for those who continued. The mean semesters of high school business were 7.75 for those who continued and for those who terminated, 7.59.

HSGPA in Business. The mean HSGPA for those who continued was 3.43, while the mean HSGPA for those who terminated was 3.33. OU and SSC had higher mean HSGPA in business for students who continued. Higher mean HSGPA for those who continued were recorded in 1963 and 1967.

Total High School Academic Credits. Those who continued had 36.47 mean semesters, and those who terminated had mean semesters of 36.18. Those who continued had higher mean semesters for CSC and ECSC. When universities, senior colleges, and the junior college were compared for those who continued, universities had 37.04 mean semesters; senior colleges, 35.36; and the junior college, 35.6. Those who terminated at universities had mean semesters of 37.52; senior colleges had 35.32; and the junior college had 35.38. Those who continued in 1963, 1964, and 1965, had higher mean semesters of academic credits.

HSGPA for Total Academic Credits. For those who continued, the HSGPA was 3.28, while students who terminated had a mean HSGPA of 3.20. Those who continued had higher mean HSGPA at OSU, CSC, and NOC. The HSGPA for those who continued was higher for universities, 3.35; followed by senior colleges, 3.17; and the junior college, 2.90. For those who terminated, universities had a mean of 3.31; senior colleges had a mean of 3.28; and the junior college had a mean of 2.72. The null hypothesis was rejected at the .05 level with an AOV computed F of 5.68 for SSC when HSGPA for total academic credits were compared for those who terminated and for those who continued.

Initial College GPA. The mean initial GPA for those who continued was 2.84, while the mean initial GPA for those who terminated was 2.73. Higher mean GPA for those who terminated was recorded by SSC and ECSC.

The mean GPA for those who continued for universities was 2.91; senior colleges, 2.63; and the junior college, 2.98. For those who terminated at universities, the GPA was 2.74; at senior colleges, 2.72; and at the junior college, 2.77. Those who continued had a higher GPA in all years. The null hypothesis was rejected at the .05 level with an AOV computed F of 8.52 for OSU when the initial college GPA was compared for students who terminated and for students who continued. The null hypothesis was rejected at the .05 level with an AOV computed F of 4.72 for universities when the initial college GPA's were compared for those who terminated and for those who continued.

Overall GPA at the Time the Business Certificate Was Received.

Those who continued had an overall GPA of 2.78, while those who terminated had an overall GPA of 2.65. Those who continued had higher GPA for OSU, CSC, and NOC. Universities had an overall GPA of 2.82; senior colleges, 2.63; and the junior college, 2.30. For those who terminated, the overall GPA was 2.66 at universities; colleges, 2.62; and the junior college, 2.71. Those who continued had higher overall GPA in all years. The null hypothesis was rejected at the .05 level with an AOV computed F of 15.42 and 6.55 when the overall GPA's at the time the business certificate was received for OSU and universities, respectively, were compared for students who terminated and for those who continued.

High School Size. The mean high school size for those who continued was 875.96 students, while the mean high school size for those who terminated was 754.59 students. The mean high school size was greater for those who continued from SSC, while those who terminated had a greater high school size for other institutions. The mean high school size for those who continued for universities was 1,111.55. The

college mean was 358.21 and the junior college mean was 430. For those who terminated, the universities' mean was 1,114.71; the colleges' mean was 460.14; and the junior college mean was 715. When the data were examined by years, it was found that for those who terminated the mean high school size was greater in 1967, only.

Homogeneity of Variance. All of the student characteristics were tested for homogeneous variances using the Edwards' test before computing the analysis of variance. The null hypotheses that were rejected are reported below. The null hypothesis was rejected at the .05 level with a computed F of 2.86, 1.47, and 1.44 when the variances for age, HSGPA in home economics, and overall GPA at the time the business certificate was received, respectively, were compared for those who continued and for those who terminated.

The null hypothesis was rejected at the .05 level with a computed F of 1.61, 3.18, and 2.09 for OU, OSU, and colleges, respectively, when the variances for semesters of high school home economics, HSGPA in mathematics, and semesters of high school social studies, respectively, were compared for those who continued and for those who terminated. The null hypothesis was rejected at the .05 level with a computed F of 9.73 and 15.58 for ECSC when variances for natural sciences ACT standard score and natural sciences ACT percentile, respectively, were compared for those who continued and for those who terminated. The null hypothesis was rejected at the .05 level with a computed F of 3.03, 2.69, 3.36, and 2.35, for SSC when the variances for English ACT percentile, social studies ACT percentile, composite ACT percentile, and semesters of high school social studies, respectively, were compared for those who continued and for those who terminated.

The null hypothesis was rejected at the .05 level with a computed F of 2.27 and 5.10 for 1963 when the variances for HSGPA in social studies and HSGPA in home economics, respectively, were compared for those who continued and for those who terminated.

The null hypothesis was rejected at the .05 level with a computed F of 2.38 for 1967 when the variances for semesters of high school biological and physical sciences were compared for those who continued and for those who terminated. Results of the Edwards' test of homogeneity of variances significant at the .05 level for continuing and terminating student characteristics are shown in Appendix M.

#### The Non-Parametric Characteristics of the Respondents

Father's Education. An examination made of the highest level of education obtained by the father of students who completed the certificate program and continued their education revealed that 21.1 percent had fathers who graduated from college or had higher degrees of education. For students who terminated their program after completing their certificate, only 8.9 percent had fathers who graduated from college or had higher degrees of education. Of the students who terminated their education, 62.8 percent had fathers who graduated from high school or had less education. Of the students who continued their education, 51.0 percent had fathers who graduated from high school or had less education.

Mother's Education. The next category was the highest level of education that the student's mother had obtained. Of the students who terminated, 4.2 percent had mothers who obtained a bachelor's degree or higher. Of the students who continued, 8.7 percent had mothers who



either received a bachelor's degree or had obtained a master's degree. Of the students who terminated, 65.5 percent had mothers who graduated from high school or had less education; 55.8 percent of the students who continued had mothers who had graduated from high school or had less education.

Education of the Older Brother. Of the students who terminated, 67.8 percent did not have an older brother. Of the students who continued, 68.3 percent did not have an older brother. For the students who terminated, 8.1 percent had older brothers who had graduated from high school or had less education. Of those who continued, 6.7 percent had older brothers who had a high school education or less. Of the students who continued, 17.4 percent had brothers who had achieved a bachelor's degree or higher degrees of education. Thirteen percent of the students who terminated had older brothers who had obtained a bachelor's degree or above.

Education of the Older Sister. An examination of the highest level of education that the older sister had obtained revealed that of students who terminated, 65.0 percent had no older sister, and for the students who continued, 66.3 percent had no older sister. Of the students who continued, 12.5 percent had older sisters who had graduated from high school or had less education. Of those who terminated, 9.3 percent had older sisters who had graduated from high school or had attained less than a high school education. For those who continued, 12.5 percent had an older sister who had attained the bachelor's degree or a higher degree. Of those who terminated, 9.8 percent had older sisters who had graduated from college or had a higher degree.

Occupation of the Father. Differences were found in the occupation of the fathers of the students who completed the college program and the occupations of the fathers of those who received their certificate and terminated. The occupation of the fathers enumerated the greatest number of times for students who terminated was that of the skilled work area -- 22.9 percent. Another 22.3 percent had fathers who owned, rented, or managed a farm or ranch. Another occupation was that of fathers who owned, rented, or managed a small business -- 10.2 percent.

Of the students who continued, 17.3 percent had fathers who were engaged in skilled work; 16.3 percent owned, rented, or managed a small business; and 10.6 percent had fathers who owned, rented, or managed a farm or ranch. Of the students who continued, 10.6 percent reported fathers who were laborers, and 13.5 percent reported fathers who were in the executive category. Of the students who continued, 8.7 percent reported fathers in the professional area as opposed to 5.7 percent of those who terminated. Of the students who terminated, 7.3 percent had fathers who were in the executive category, and 8.9 percent of the fathers were in the laboring category. Office work was the occupation of 7.3 percent of the fathers of students who terminated while only 5.8 percent of the students who continued had fathers engaged in office work. Of the students who continued, 11.5 percent had fathers who were deceased as compared to only 6.4 percent for the students who terminated.

Occupation of the Mother. For the students who terminated, 60.2 percent had mothers who were housewives, while of the students who continued, 51.0 percent had mothers who were housewives. For students who

continued, 21.2 percent of the mothers were engaged in office work, while 17.5 percent of the students who terminated had mothers engaged in this occupation. Of the students who terminated, 5.7 percent had mothers who were in sales work and another 4.1 percent had mothers engaged in professional occupations. Of the students who continued, 7.7 percent had mothers employed in professional occupations; 6.7 percent had mothers who were employed in the laboring category; and 4.8 percent had mothers who were in sales work,

Income and Wealth. When the level of income or wealth of the students compared to the wealth and income of the community was examined, 5.8 percent for the students who terminated reported average income or wealth. Income or wealth somewhat above average was the level for 36.1 percent of those who terminated and 34.6 percent of those who continued. Of the students who continued, 8.7 percent believed that they had considerably above-average income or wealth, while 3.8 percent of the students who terminated believed that their income or wealth was considerably above-average.

Marriage. When marriage and plans for marriage as a limiting factor in the collegiate educational plans was examined, 58.5 percent of the students who terminated said that marriage did not affect their educational plans, while 41.5 percent indicated that it did. Of the students who continued, only 7.7 percent indicated that marriage or plans for marriage affected their educational plans, while 92.3 percent said that this factor had no effect.

Marital Status. The marital status of the students in the study revealed that 23.6 percent of the students who terminated were married; 12.1 percent were engaged to be married; and 62.7 percent were single.

When the students who continued their education program were questioned, the data revealed that 18.3 percent were married; 1.9 percent were engaged to be married, and 79.8 percent were single.

Parental Influence. When the extent of parental persuasion was examined, 33.0 percent of the students who terminated had parents who wanted them to continue with college; 43.9 percent had parents who did not express an opinion on either college or work; and 9.0 percent had parents who wanted the student to make up his own mind. When the students who continued their education were questioned, 72.1 percent had parents who wanted them to continue with college; 20.2 percent did not express an opinion on college or work; and only 2.9 percent wanted the student to make up his own mind. Further, when parental attitudes were examined, 13.8 percent of the students who terminated had parents who wanted them to go to work, while only 4.8 percent of the students who continued had parents who wanted them to go to work.

Student Reasons for Not Continuing. Students were asked to rank the factors that are most important for certificate holders not continuing their collegiate education after receiving the business certificate. The students who terminated, indicated that their choices (ranked according to the number of times ranked number one) for leaving college were, first, marriage; second, financial needs; and third, lack of interest in college. Students who continued, indicated that their choices (again ranked as above) were first, financial needs; second, marriage; and third, lack of interest in college.

When the first, second, and third choices for students who terminated were totaled, the data indicated that 88.5 percent listed marriage as one of the three choices. Financial needs, with 80.6 percent,

was next in importance. Lack of interest in college (55.4 percent), family and home responsibilities (29.6 percent), and the college curriculum (9.9 percent) were other factors. Financial need was the most important reason for leaving college for 78.8 percent of those who continued. Lack of interest in college (76.0 percent) and marriage (74.0 percent) were next in importance. Family and home responsibilities (18.3 percent), the college curriculum (15.4 percent), and student's lack of ability (14.4 percent) were other choices listed by those who continued their collegiate education.

Continue Education. When students were questioned on whether they had considered continuing their education, 79.6 percent of the students who terminated had considered continuing their education, while 20.4 percent had given no consideration to this matter. When the students were questioned concerning their future education in regard to money, only 9.2 percent of the students who terminated and had not considered continuing their education would consider further education. If money was available, another 64.6 percent said they would not consider further education, and 26.2 percent said that they still did not know.

Borrow Money for Education. When the students were questioned about borrowing money for educational purposes if they could pay the money back after finishing their education or training, 30.7 percent of the students who terminated said that they would borrow the funds; 35.6 percent said they would not; and 24.7 percent said they did not know. For students who continued, 67.6 percent said that they would borrow money; 7.8 percent said they would not; and 24.5 percent said that they did not know.

Person Who Most Influenced Student. When students were asked for the person who was most influential in their attending college to receive a certificate, 42.7 percent of both the students who terminated and continued indicated that their parents were the most influential persons. In addition, 15.3 percent and 14.6 percent of the students who terminated and continued, respectively, indicated that the students themselves were the most influential factor. For the students who terminated, 16.2 percent indicated that their peers were the influential factor, while 9.7 percent of those who continued indicated that friends were the most influential factor. For students who continued, 8.7 percent indicated that their high school business teacher or college personnel (both were 8.7 percent) were the most influential factors. For the students who terminated, 7.3 percent indicated that their high school business teacher, and 2.5 percent indicated that college personnel, played an important part in their pursuit of a certificate program.

College Student Would Like to Attend if Continued. When the students were asked about the type of college they would like to attend to continue their collegiate education, 49.0 percent of those who terminated indicated that they would like to attend a state four-year college, and 35.0 percent indicated that they would like to attend a university. Of those who continued, only 35.6 percent indicated that they would like to attend a state four-year college, and 57.7 percent indicated that they would prefer to attend a university.

Attend Different College. When students were asked about attending colleges other than the one they attended, the results indicated that 77.9 percent of those who continued preferred to attend the same

college or university. For those who terminated, 74.5 percent indicated that they would prefer to attend the same college or university. For those who terminated, 11.8 percent and 11.5 percent of those who continued indicated that they would have preferred a university, while 8.9 percent of those who terminated and 1.9 percent of those who continued indicated that they would have preferred a state four-year college. Only 1.6 percent of those who terminated and 1.0 percent of those who continued would have preferred a private business college.

Adequacy of Training Program. When the degree of adequacy for job preparation or for future job opportunity of the certificate program was examined, 22.6 percent of the students who terminated believed that they had received the best training program. Another 51.9 percent believed that their training program was good; 20.7 percent believed that their training program was adequate; and 4.8 percent believed that their training program needed improvement. For the students who continued, 17.3 percent believed that they had received the best training; 55.8 percent believed they were involved in a good training program; 20.2 percent believed that their training program was adequate; and 6.7 percent believed that their training program needed improvement.

Need for Additional Education. When students were asked whether additional education or training might be necessary to handle requirements for a job, 22.3 percent of the students who continued believed that additional education would be necessary to handle job requirements. Another 66.0 percent believed that no additional education would be required, and 11.7 percent did not know. For the students who terminated, 17.3 percent believed that additional training would be necessary; 74.4 percent believed that no additional education would be necessary; and

8.3 percent did not know.

Chances of Obtaining Employment. When the students' prospects for getting a job were examined, 43.0 percent of the students who terminated believed that their prospects were excellent; 49.0 percent thought that their prospects of getting a job were good; and 7.3 percent believed that their prospects were fair. For the students who continued, 37.5 percent believed that their prospects for getting a job were excellent; 51.9 percent felt that their prospects were good; and 9.6 percent felt their prospects were fair.

Necessity of Certificate Program for Employment. When the students were asked for their opinion on the necessity of a certificate program to obtain employment in the office-occupations field, 36.6 percent of the students who terminated believed that the certificate program was not necessary to get a job; 54.1 percent believed that the program was necessary; and 9.2 percent did not know. For the students who continued, 40.8 percent believed that the certificate program was not necessary; 48.5 percent believed the certificate program was necessary to obtain employment; and 10.7 percent did not know.

Interest in Office Occupation. When the student's interest in the office-occupations area was examined, 39.7 percent of the students who terminated were very interested in the business certificate program; 47.1 percent were interested; 9.0 percent were mildly interested; 3.2 percent had little interest in the business program; and 1.0 percent were not interested. For students who continued, 29.1 percent were very interested in the office occupations; 46.6 percent were interested; 14.6 percent were mildly interested; 3.9 percent had little interest; and 5.8 percent were not interested.



Initial Employment. The student's initial employment after completing the certificate program was as follows: 44.3 percent of those who terminated had their initial employment as a secretary; 15.0 percent had their initial employment as a stenographer; 22.3 percent had their initial employment as a general office clerk; and an additional 6.1 percent had their initial employment as a bookkeeper. For those who continued their education after receiving the certificate, 18.4 percent had student status. Another 41.7 percent had their initial employment as a secretary; 6.8 percent were stenographers; 14.6 percent were general office clerks; and 5.8 percent of those who continued had their initial employment as a business teacher.

Present Employment. When the present employment of students was examined, 27.5 percent of the students who terminated were currently housewives; 32.9 percent were employed as secretaries; 6.4 percent were employed as stenographers; 16.9 percent were employed as general office clerks; 4.2 percent were employed as bookkeepers; and 4.8 percent were not employed. For the students who continued, 15.4 percent were housewives; 25.0 percent were students; 14.4 percent were business teachers; 18.3 percent were secretaries; 3.8 percent were general office clerks; 3.8 percent were secondary teachers (non-business), and 3.8 percent were elementary teachers.

State of Employment. When the state in which students gained their first employment opportunity was examined, 15.6 percent of the students who terminated had their initial employment out of state; for the students who continued, 8.7 percent had their initial employment out of state. For students with a current job, 29.0 percent of the students who terminated were presently employed out of state, while 25.0 percent

of the students who continued were presently employed out of state.

Student Plans for Coming Year. The plans for the coming year for students who terminated after receiving the certificate involved the following: 56.2 percent planned to continue working; 36.7 percent planned to be housewives; and 3.8 percent planned to go back to college. For the students who continued, 14.4 percent planned to continue college, 30.8 percent planned to continue working; 24.0 percent planned to teach; 22.1 percent planned to be housewives; and 6.7 percent planned to get a job.

Student Future Plans. The vocations which students who terminated eventually hoped to enter were as follows: 26.8 percent planned to work in an office; 51.3 percent planned to be housewives; 9.6 percent eventually hoped to become teachers; 4.1 percent planned to become executives; and 2.5 percent planned to go into the professions. For students who continued, 45.1 percent planned eventually to teach; 25.5 percent planned to be housewives; 14.7 percent were attracted to professional work; 5.9 percent planned to work in an office.

Level of College Education Attained. When the highest level of college education attained was examined for the students in the study, the data revealed that students who terminated had completed the following semester hours: 5.4 percent had completed 30 semester hours; 45.2 percent had completed between 31 and 60 semester hours; 43.0 percent had completed between 91 and 120 semester hours. Most of the students in the highest category had (91 to 120 semester hours) transferred from another college or had changed majors. Of the students who had continued, 4.8 percent had completed 60 to 90 semester hours; 12.5 percent had completed 91 to 120 semester hours; 76.9 percent had completed

the bachelor's degree; and 5.8 percent had obtained the master's degree.

Educational Institutions Attended After Receiving Certificate.

The institutions students had attended since receiving the certificate for those who terminated were as follows: 80.3 percent had not attended another institution; 17.6 percent had attended one other institution; 1.9 percent had attended two other institutions; and one student had attended three other institutions. For the students who continued, 80.6 percent had attended one other institution, and 19.4 percent had attended two other institutions. When the names of the institutions were examined, 82.7 percent of the students who continued had received or planned to receive a degree from the same institution; 16.3 percent had received or planned to receive a degree from another institution; and 1.0 percent had received the certificate at the time they completed the bachelor's degree.

Major for Students Who Continued. When the students were questioned concerning their continued collegiate education after receiving the certificate, the following majors were observed: 56.7 percent in business education, 1.9 percent in home economics, 20.2 percent in office management and administration, 3.8 percent in elementary education, 2.9 percent in general business, 6.7 percent in accounting, and 2.9 percent in sociology.

Non-Parametric Statistical Analysis of Student Characteristics  
for Those Who Terminated and Those Who Continued

This section of Chapter IV is concerned with the statistical analysis of the non-parametric student characteristics for those who terminated and those who continued. The computed chi-square and exact

probabilities for the non-parametric data are shown in Appendix N.

Father's Education. The null hypothesis was rejected at the .05 level with a chi-square of 7.44 when educational levels of the father were compared for those who terminated and for those who continued. Students who continued in all institutions except SSC and NOC had fathers with greater levels of education than those who terminated. In all years students who continued had fathers with greater levels of education.

Mother's Education. The null hypothesis was rejected at the .05 level with a chi-square of 11.52 when educational levels of the mother were compared for those who terminated and for those who continued. In all institutions students who continued had mothers with greater levels of education. The null hypothesis was rejected at the .05 level with a chi-square of 12.13 and 6.10 when educational levels of the mother for OU and universities, respectively, were compared for those who terminated and for those who continued. Students who continued had mothers with greater levels of education in all years. The null hypothesis was rejected at the .05 level with a chi-square of 5.87 when educational levels of the mother for 1965 were compared for those terminated and for those who continued.

Education of the Older Brother. The educational level of the older brother of students who continued was higher than for those students who terminated in all institutions except OSU. For 1963 and 1965 the educational level of the older brother of students who continued was below that of students who terminated.

Education of the Older Sister. The educational level of the older sister of students who continued was higher than for students who

terminated in all institutions except OSU, SSC, and NOC. The null hypothesis was rejected at the .05 level with a chi-square of 6.55 for CSC when the lack of an older sister was compared for those who continued and for those who terminated. More students at CSC who continued had an older sister than those who terminated. Different results were obtained for NOC. At NOC students who continued, in general, did not have older sisters, while those who terminated had older sisters. The educational level of the older sister of students who continued, who had older sisters, was higher for all years except for 1964 and 1967.

Occupation of the Father. The null hypothesis was rejected at the .05 level with a chi-square of 3.92 when professional and executive employment categories were compared for those who terminated and for those who continued. The professional and executive categories tended to afford better chances of continuation. The null hypothesis was rejected at the .05 level with a chi-square of 6.14 when the category of owning, renting, or managing a farm or ranch was compared for those who terminated and for those who continued. Students with father's occupation in this category tended to discontinue their education upon receipt of the certificate. Students with fathers with occupation in the category of owning, renting, or managing a small business tended to continue. The null hypothesis was rejected at the .05 level with a chi-square of 8.57 for 1967 when the category of deceased father was compared for those who terminated and for those who continued. Students without a living father tended to continue. The null hypothesis was rejected at the .05 level with a chi-square of 4.05 when the category of executive employment for 1964 was compared for those who terminated and for those who continued. Students whose fathers were executives

tended to continue.

Occupation of the Mother. There was a failure to reject the null hypothesis when institutions and years were compared for those who terminated and for those who continued. However, for all institutions and years students who continued had a smaller percentage of mothers who were housewives than did students who terminated. The percentage of mothers who were housewives of the students who terminated for universities was 57.0; for colleges, 61.0; and for the junior college, 65.4. For students who continued, the percentages for universities, colleges, and the junior college were 53.5, 46.4, and 40.0, respectively. Table XXXI shows the percentage of mothers who were housewives by institution and year.

Income or Wealth. Except for NOC and ECSC, students who continued had an equal or greater level of income or wealth than those who terminated. A rating scale was designed to compare the level of income or wealth. The scale was as follows: 5, considerably above average; 4, above average; 3, average; 2, below average; and 1, considerably below average. The rating for those who continued was 3.99, while those who terminated were rated 3.37. Table XXXII shows the rated level of income or wealth of the respondents. Total students for universities gave a rating of 3.48; colleges rated 3.33; and the junior college rated 3.18. A comparison by year indicates that students tended to rate their income or wealth position higher during 1966 and 1967. Students who terminated gave the following ratings: universities, 3.47; colleges, 3.34; and the junior college, 3.23; while students who continued gave the following ratings: universities, 3.49; colleges, 3.29; and the junior college, 2.60.

TABLE XXXI

PERCENTAGE OF MOTHERS WHO WERE HOUSEWIVES BY INSTITUTION AND YEAR

	Terminated	Continued	Percent of All Jobs
TOTAL	60.2	51.0	57.9
INSTITUTION			
Oklahoma State University	55.9	54.0	55.2
University of Oklahoma	60.7	52.4	57.1
Central State College	51.9	37.5	50.0
East Central State College	57.1	50.0	55.6
Southwestern State College	68.0	50.0	64.8
Northern Oklahoma College	65.4	40.0	63.2
Universities	57.0	53.5	55.7
Colleges	61.0	46.4	58.6
YEAR			
1963	62.5	52.6	59.7
1964	62.2	50.0	59.3
1965	63.1	52.9	61.0
1966	61.6	48.1	58.0
1967	54.2	51.9	53.6

TABLE XXXII  
LEVEL OF INCOME OR WEALTH

	Terminated	Continued	Total Respondents
TOTAL	3.37	3.39	3.38
INSTITUTION			
Oklahoma State University	3.48	3.52	3.49
University of Oklahoma	3.43	3.43	3.43
Central State College	3.40	3.50	3.42
East Central State College	3.29	2.75	3.17
Southwestern State College	3.31	3.31	3.31
Northern Oklahoma College	3.23	2.60	3.18
Universities	3.47	3.49	3.48
Colleges	3.34	3.29	3.33
YEAR			
1963	2.79	3.74	3.06
1964	3.31	3.36	3.32
1965	3.31	3.29	3.30
1966	3.36	3.48	3.39
1967	3.46	3.15	3.38

Rating Scale:

5 = Considerably above average    2 = Somewhat below average  
 4 = Somewhat above average        1 = Considerably below average  
 3 = Average



Marriage. All institutions and years indicated that marriage or plans for marriage were major determinants for those who terminated. The null hypothesis was rejected at the .05 level with a chi-square of 38.86 when marriage or plans for marriage were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 26.98, 9.23, 18.35, 7.19, and 4.17 when marriage or plans for marriage for universities, colleges, OSU, OU, and SSC, respectively were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 6.11, 14.10, and 10.73 when marriage or plans for marriage for 1963, 1966, and 1967, respectively, were compared for those who continued and for those who terminated.

Marital Status. The null hypothesis was rejected at the .05 level with a chi-square of 9.54 when the category of single was compared for those who terminated and for those who continued. Students who were or had been married tended to terminate after receipt of the certificate. The null hypothesis was rejected at the .05 level with a chi-square of 4.88 when the category of single for 1966 was compared for those who terminated and for those who continued.

Parental Influence.

1. Further collegiate education: The null hypothesis was rejected at the .05 level with a chi-square of 47.13 when parental influence to further collegiate education was compared for those who terminated and for those who continued. Students who continued tended to have influence from one or both of their parents to further their collegiate education. The null hypothesis was rejected at the .05 level with a chi-square of 36.71, 30.23, and 5.20 when parental influence to

further collegiate education for universities, OSU, and OU, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 15.84, 13.41, 9.83, and 4.22 for 1963, 1964, 1966, and 1967, respectively, when parental influence to further collegiate education was compared for those who terminated and for those who continued.

2. Influence to work: The null hypothesis was rejected at the .05 level with a chi-square of 5.31 when parental influence to work was compared for those who terminated and for those who continued. Students who terminated with work as the alternative to further education tended to do so with encouragement from one or both parents.

Student Reasons for Not Continuing. For those who continued at all institutions except CSC and ECSC, financial needs were ranked equal to or the most important reason for leaving college. Students who continued at CSC and ECSC ranked marriage and lack of interest in college, respectively, as the most important reasons for leaving college. Students who terminated at all institutions except SSC and ECSC ranked marriage as the most important reason for their leaving college. Students who terminated at SSC and ECSC ranked financial needs as the major reason for leaving college. Both those students who terminated and those who continued at SSC ranked financial needs as the major reason for students leaving college. Approximately the same trends are noted when the data are examined by years. The ranks of reasons for business students leaving college after receiving the certificate are shown by institution in Table XXXIII and by years in Table XXXIV.

The null hypothesis was rejected at the .05 level with a chi-square of 7.03 (total ranking) and 5.91 (ranked second) when lack of

TABLE XXXIII

RANK OF REASONS FOR BUSINESS STUDENTS LEAVING COLLEGE  
AFTER RECEIVING CERTIFICATE BY INSTITUTION

	Lack of Interest in College	Financial Needs	Family and Home Responsi- bilities	Marriage
TOTAL				
Terminated	3	2		1
Continued	2	1		3
OSU				
Terminated	3	2		1
Continued	2	1		3
OU				
Terminated	3	2		1
Continued	2	2		2
CSC				
Terminated	3	2		1
Continued	3	2		1
ECSC				
Terminated		1	3	2
Continued	1	2		3
SSC				
Terminated	3	1		2
Continued	2	1		3
NOC				
Terminated	3	2		1
Continued	2	2		2
UNIVERSITIES				
Terminated	2	3		1
Continued	2	1		3
COLLEGES				
Terminated	3	1.5		1.5
Continued	2	1		3

TABLE XXXIV  
 RANK OF REASONS FOR BUSINESS STUDENTS LEAVING COLLEGE  
 AFTER RECEIVING CERTIFICATE BY YEARS

	Lack of Interest in College	Financial Needs	Marriage
1963			
Terminated	3	1	2
Continued	1.5	1.5	3
1964			
Terminated	3	1.5	1.5
Continued	3	2	1
1965			
Terminated	3	2	1
Continued	2	1	3
1966			
Terminated	3	2	1
Continued	2	1	3
1967			
Terminated	3	2	1
Continued	1	3	2

interest in college was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.39 and 11.35 (both ranked first) when marriage for the total respondents and OSU, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 6.95 (ranked second) and 4.15 (ranked first) when lack of interest in college for 1963 and 1967, respectively, was compared for those who terminated and for those who continued.

Continue Education. The null hypothesis was rejected at the .05 level with a chi-square of 23.48 when consideration given to continuing education was compared for those who terminated and for those who continued. In all institutions and years students who continued gave greater consideration to continuing their education after receiving the business certificate than students who terminated. The null hypothesis was rejected at the .05 level with a chi-square of 9.97, 7.02, and 7.37 when consideration for continuing education for universities, colleges, and OSU, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 4.77, 4.12, and 4.06 when consideration for continuing education for 1963, 1964, and 1966, respectively, was compared for those who terminated and for those who continued.

Money As a Factor in Continuing Education. Students who terminated were asked whether they would continue their education after receiving the business certificate if they had the money. Students who terminated responded as follows; colleges: yes, 14.3 percent, no, 65.7 percent; junior college: yes, 7.7 percent, no, 61.5 percent; and

universities; yes, none, no, 64.7 percent. When data were examined by years, those who responded "no" had the following percentages; 1963, 79.9 percent; 1964, 71.4 percent; 1965, 54.5 percent; 1966, 61.5 percent; and 1967, 57.1 percent. Percentage of "yes" responses were as follows: 1963, none; 1964, 7.1 percent; 1965, none; 1966, 23.1 percent; and 1967, 14.3 percent. Table XXXV lists the percentage of those not considering continuing education but would if money had been available.

TABLE XXXV

PERCENTAGE OF STUDENTS NOT CONSIDERING CONTINUING EDUCATION  
BUT WOULD CONSIDER IF MONEY HAD BEEN AVAILABLE

	Yes	No	Don't Know	Percent of Those Who Terminated
TOTAL	9.2	64.6	26.2	20.8
INSTITUTION				
Oklahoma State University	0	57.1	42.9	15.2
University of Oklahoma	0	100.0	0	10.7
Central State College	7.1	78.6	14.3	26.9
East Central State College	50.0	0	50.0	14.3
Southwestern State College	15.8	63.2	21.0	25.3
Northern Oklahoma College	7.7	61.5	30.8	25.0
Universities	0	64.7	35.3	14.2
Colleges	14.3	65.7	20.0	20.7
YEAR				
1963	0	76.9	23.1	27.1
1964	7.1	71.4	21.4	31.1
1965	0	54.5	45.5	16.9
1966	23.1	61.5	15.4	17.8
1967	14.3	57.1	28.6	17.1

Borrow Money and Repay for Further Education. The null hypothesis was rejected at the .05 level with a chi-square of 33.41 when borrowing money to pay for further education was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 10.55, 11.14, 14.02, and 7.40 when borrowing money to repay for further education for universities, colleges, OSU, and SSC, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.62 and 9.51 when borrowing money to pay for future education for 1964 and 1967, respectively, was compared for those who terminated and for those who continued. In all institutions the majority of the students who continued would borrow money to pay for further education. Only GSC and NOC had a majority of those who terminated preferring not to borrow to pay for further education.

Person Who Most Influenced Student. There was a failure to reject the null hypothesis at the .05 level when the person who most influenced the student to attend college to obtain the certificate was compared for those who terminated and for those who continued. Three major factors influenced students to attend college to receive a certificate. The most important of these reasons was the students' parents. Next in importance were the students themselves and friends of the students' own ages. These three factors were important for those who terminated for all the universities and colleges. Table XXXVI shows the rank of persons who most influenced students to attend college to receive the certificate by institution. For those who continued, husbands, older brothers or sisters, high school business teachers and counselors, and college personnel were additional people who influenced

TABLE XXXVI

RANK OF PERSONS WHO MOST INFLUENCED STUDENTS TO ATTEND  
COLLEGE TO RECEIVE THE CERTIFICATE BY INSTITUTIONS

	1	2	3	4	5	6	7	8	9
TOTAL									
Terminated			1	2				3	
Continued			1	3				2	
OSU									
Terminated			1	3				2	
Continued			1	3				2	
OU									
Terminated			1	3				2	
Continued			1.5	3				1.5	
OSU									
Terminated			1	3				2	
Continued			1	3		3			3
ECSC									
Terminated			1	3	2				
Continued						1	2.5	2.5	
SSC									
Terminated			1	2					
Continued			1	2.5			2.5		
NOC									
Terminated			1	2		3.5		3.5	
Continued			1					2.5	
UNIVERSITIES									
Terminated			1	3				2	
Continued			1	3				2	
COLLEGES									
Terminated			1	2				3	
Continued			1	3		3	3		

## Note:

1. A high school teacher
2. My high school counselor
3. My parents
4. Friends my own age
5. My husband
6. My high school business teacher
7. College personnel
8. Myself
9. Brother or sister (older)



students to attend college to receive the certificate. When comparisons of years were made, three factors -- parents, the students themselves, and friends their own age -- remained the three most important factors, except in 1966 when the third most important factor tended to be high school business teachers. The factor of the students themselves is important because this question in the questionnaire allowed additional responses, and the students had to write in this response. Table XXXVII shows the rank of persons who influenced students to attend college to receive the certificate by year.

College Students Would Like to Attend if Continued. When students were asked if they were to continue their collegiate education what type of institution would they attend, differences were noted between those who terminated and those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 15.70 when the factor of like to continue at a university was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.18 when the factor of like to continue at a state college was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 4.13 and 6.88 when the factor of like to continue at a university for 1965 and 1966, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.41 when the factor of like to continue at a state college for 1966 was compared for those who terminated and for those who continued.

Attend Different College. The null hypothesis was rejected at the .05 level with a chi-square of 4.74 when colleges students would have

preferred to attend were compared for those who terminated and for those who continued. More than 75 percent of those who responded to the questionnaire preferred to attend the same college.

TABLE XXXVII

RANK OF PERSONS WHO INFLUENCED STUDENTS TO ATTEND  
COLLEGE TO RECEIVE THE CERTIFICATE BY YEAR

	1	2	3	4	5	6	7	8
1963								
Terminated			1	2				3
Continued	3		1	3		3		
1964								
Terminated			1	2				3
Continued			1	2				3
1965								
Terminated			1	2				3
Continued			1		3	3		3
1966								
Terminated			1			3		2
Continued			1	3.5		3.5		2
1967								
Terminated			1	3				2
Continued			1	3.5			2	3.5

## Note:

1. A high school teacher
2. My high school counselor
3. My parents
4. Friends my own age
5. My husband
6. My high school business teacher
7. College personnel
8. Myself

Adequacy of Training Program. There was a failure to reject the null hypothesis at the .05 level when adequacy of the training program was compared for those who terminated and for those who continued.

Table XXXVIII indicates the degree of adequacy of the certificate program when the following rating values were given: 4, the best training program; 3, good training program; 2, adequate training program; 1, training program needs improvement; and 0, completely inadequate training program. No respondents answered that the training program was completely inadequate. A comparison by institution indicates that universities were rated 3.09; followed by colleges, 2.85; and the junior college, 2.47. The level of adequacy of the certificate program was rated higher by respondents who terminated than by respondents who continued.

Need for Additional Education. Students were asked whether additional education would be necessary for them to handle adequately the requirements of the job for which the business certificate student prepares. Table XXXIX indicates the rank of confidence in the training the students had in the certificate program when the following rating values were given: yes, additional training necessary, 0; don't know, 1; and no, additional training not necessary, 2. When the institutions were compared, the universities rated their training programs higher (1.63), followed by colleges (1.56), and the junior college (1.41). Students who terminated at all institutions had greater confidence in the training program than those who continued. When the data were examined by those who continued, respondents in 1963 and 1966 had a higher confidence rating. There was a failure to reject the null hypothesis at the .05 level when need for additional education was

TABLE XXXVIII  
 RATING OF ADEQUACY OF CERTIFICATE PROGRAMS

	Terminated	Continued	Total Respondents
TOTAL	2.92	2.84	2.90
INSTITUTION			
Oklahoma State University	3.10	2.98	3.06
University of Oklahoma	3.29	2.95	3.14
Central State College	3.06	2.63	3.00
East Central State College	2.79	2.75	2.78
Southwestern State College	2.80	2.56	2.76
Northern Oklahoma College	2.50	2.20	2.47
Universities	3.14	2.97	3.09
Colleges	2.89	2.61	2.85
YEAR			
1963	2.88	3.05	2.93
1964	2.91	2.57	2.83
1965	2.80	2.65	2.77
1966	3.03	2.96	3.01
1967	2.96	2.81	2.93

Rating Scale:

4 = Best training I could receive    1 = Training program needs improvement  
 3 = Good training program  
 2 = Adequate training program        0 = Completely inadequate program

TABLE XXXIX  
 RATING OF CONFIDENCE THE RESPONDENTS HAD IN THE  
 TRAINING OF THE CERTIFICATE PROGRAM

	Terminated	Continued	Total Respondents
TOTAL	1.57	1.44	1.54
INSTITUTION			
Oklahoma State University	1.71	1.42	1.61
University of Oklahoma	1.86	1.57	1.73
Central State College	1.71	1.63	1.70
East Central State College	1.64	1.50	1.61
Southwestern State College	1.47	1.33	1.45
Northern Oklahoma College	1.15	1.00	1.14
Universities	1.74	1.46	1.63
Colleges	1.58	1.44	1.56
YEAR			
1963	1.43	1.94	1.57
1964	1.58	1.36	1.53
1965	1.65	1.24	1.56
1966	1.68	1.70	1.69
1967	1.49	1.00	1.37

Rating Scale:

- 2 = No additional training necessary
- 1 = Don't know
- 0 = Yes, additional training necessary

compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 4.86 when need for additional education for 1967 was compared for those who terminated and for those who continued. In 1963 those who continued and in 1967 those who terminated had greater confidence in the certificate program.

Chances of Obtaining Employment. Students rated their chances for obtaining employment according to the following: Excellent, 3; good, 2; fair, 1; poor, 0; and don't know, not rated. No students reported that their chances for obtaining employment after completing the business certificate program were poor. Universities rated their chances for obtaining employment better than either the colleges or the junior college. Ratings of universities, colleges, and the junior college were 2.53, 2.27, and 1.88, respectively. The junior college respondents who continued rated their chances for obtaining employment better than students who terminated. Students who terminated for both universities and colleges rated their chances for obtaining employment better than those who continued. No clear trend can be seen when the data are compared by years. Table XL indicates the rating of chances for obtaining employment by institution and by year. The null hypothesis was rejected at the .05 level with a chi-square of 6.07 and 6.47 when chances of obtaining employment for OSU and universities, respectively, were compared for those who terminated and for those who continued.

Necessity of Certificate Program for Employment. Students were asked whether they believed the certificate program was necessary to obtain adequate employment in the office-occupation area. There was a failure to reject the null hypothesis at the .05 level when necessity

TABLE XL  
 RATING OF CHANCES FOR OBTAINING EMPLOYMENT

	Terminated	Continued	Total Respondents
TOTAL	2.36	2.28	2.34
INSTITUTION			
Oklahoma State University	2.58	2.28	2.48
University of Oklahoma	2.79	2.57	2.69
Central State College	2.49	2.38	2.47
East Central State College	2.50	2.00	2.41
Southwestern State College	2.15	1.94	2.11
Northern Oklahoma College	1.86	2.20	1.89
Universities	2.63	2.37	2.53
Colleges	2.31	2.07	2.27
YEAR			
1963	2.36	2.42	2.38
1964	2.40	2.14	2.34
1965	2.23	2.35	2.26
1966	2.57	2.33	2.51
1967	2.25	2.15	2.23

Rating Scale:

- 3 = Excellent
- 2 = Good
- 1 = Fair
- 0 = Poor

of the certificate program for employment was compared for those who terminated and for those who continued. The necessity for the certificate program was rated on the following scale: yes, 2; I don't know, 1; and no, 0. The junior college respondents (1.28) rated the necessity of the certificate program for employment higher than did those from colleges (1.26). College respondents believed that the certificate program was necessary to a greater degree than did those from the universities (1.02). Respondents who terminated at OSU and SSC believed that the certificate program was necessary to a greater extent than those who continued. See Table XLI for a comparison of ratings of necessity of certificate program for employment.

Interest in Office Occupations. Students were asked their interest in the occupation for which they received the business training. The null hypothesis was rejected at the .05 level with a chi-square of 13.24 when interest in office occupations was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 6.61 when interest in office occupations was developed on the following scale: 4, very interested; 3, interested; 2, mildly interested; 1, little interest; and 0, no interest. For students who terminated, colleges (3.33) had respondents with a higher degree of interest than universities (3.21), which was higher than the junior college (2.90). For respondents who continued, the same pattern was developed. In all years those who terminated had more interest in office occupations than those who continued. A rating of interest in office occupations is shown in Table XLIII.

Initial Employment. Table XLIII indicates the states in which respondents had their initial employment or residence after receiving the



TABLE XLI

## RATING OF NECESSITY OF CERTIFICATE PROGRAM FOR EMPLOYMENT

	Terminated	Continued	Total Respondents
TOTAL	1.18	1.08	1.15
INSTITUTION			
Oklahoma State University	1.05	1.00	1.03
University of Oklahoma	.93	1.05	.98
Central State College	1.12	1.38	1.15
East Central State College	1.21	1.50	1.28
Southwestern State College	1.35	1.20	1.32
Northern Oklahoma College	1.33	.80	1.28
Universities	1.02	1.01	1.02
Colleges	1.25	1.30	1.26
YEAR			
1963	1.13	.84	1.04
1964	1.24	1.14	1.22
1965	1.25	1.06	1.21
1966	1.00	1.19	1.05
1967	1.27	1.12	1.23

## Rating Scale:

2 = Yes

1 = Don't know

0 = No

TABLE XLII  
 RATING OF INTEREST IN OFFICE OCCUPATIONS

	Terminated	Continued	Total Respondents
TOTAL	3.21	2.89	3.13
INSTITUTION			
Oklahoma State University	3.19	2.86	3.08
University of Oklahoma	3.29	2.81	3.08
Central State College	3.40	3.13	3.37
East Central State College	3.21	3.50	3.28
Southwestern State College	3.30	3.00	3.25
Northern Oklahoma College	2.90	2.40	2.86
Universities	3.21	2.84	3.08
Colleges	3.33	3.11	3.29
YEAR			
1963	2.90	2.78	2.86
1964	3.31	3.14	3.27
1965	3.28	2.71	3.16
1966	3.16	3.00	3.12
1967	3.34	2.85	3.22

Rating Scale:

4 = Very interested

3 = Interested

2 = Mildly interested

1 = Little interested

0 = No interest

TABLE XLIII

## STATE OF INITIAL EMPLOYMENT OR RESIDENCE

	OSU	OU	CSC	ECSC	SSC	NOC	Total
STATE							
California	5						5
Colorado	3	1					4
Kansas	1		2		2	1	6
Missouri				1	2		3
Oklahoma	118	40	57	14	81	50	360
Texas	11	3		2	5	1	22
All Others	5	5	1	1	1	5	18
Total	143	49	60	18	91	57	418

certificate. Oklahoma had the greatest number of residents with 360 of the 418 students residing initially in Oklahoma. Texas with 22 was second in number of residents. Other states in order of number of residents were Kansas, California, Colorado, and Missouri. The universities, colleges, and the junior college reflect approximately the same trend.

Table XLIV indicates the means for the total respondents and the employed respondents for initial employment. An examination of the data for initial employment indicates that all institutions and years have greater mean months employed for those who terminated. Mean months employed for those who terminated ranged from 20.5 months for ECSC to 15.0 months for OSU. The range for years was from 23.9 months in 1963 to 12.8 months in 1967. For respondents who continued the range was from 15.8 months for CSC to 6.6 months for SSC. The range for years was 18.8 months in 1963 to 4.1 months for 1967.

When data were examined for only the employed respondents, the range for those who terminated was from 22.1 months for ECSC to 15.2 months for OSU. Those who continued ranged from 22.5 months for ECSC to 7.9 months for OU. The range by years was approximately the same.

The initial employment after receiving the certificate was concentrated in the employment classification of secretarial, stenographers, and general office clerk. Respondents who terminated ranked the preceding classifications in the top three for universities and colleges. The junior college respondents who terminated ranked secretarial, general office clerk, and bookkeeper as the top three employment classifications. Respondents who continued initially were secretaries, students and business teachers for colleges; secretaries, general office

TABLE XLIV  
MEAN MONTHS OF EMPLOYMENT

	Initial Employment		Present Employment	
	Total Respondents	Employed Respondents	Total Respondents	Employed Respondents
TOTAL - Total	15.6	16.8	12.4	18.5
Terminated	17.2	17.8	13.8	20.0
Continued	11.0	13.4	8.3	13.5
OSU - Total	14.4	15.3	12.8	17.6
Terminated	15.0	15.2	13.2	19.2
Continued	13.4	15.5	12.0	15.0
OU - Total	14.3	14.5	8.9	14.0
Terminated	19.3	19.3	13.1	16.7
Continued	7.5	7.9	3.2	7.4
CSC - Total	17.1	18.3	12.3	18.5
Terminated	17.3	18.0	14.0	19.1
Continued	15.8	21.0	1.8	7.0
ECSC - Total	18.4	22.1	10.5	18.9
Terminated	20.5	22.1	12.9	22.6
Continued	11.3	22.5	2.0	4.0
SSC - Total	16.6	18.7	14.7	21.9
Terminated	18.8	20.1	16.2	23.0
Continued	6.6	9.5	7.4	14.9
NOC - Total	15.8	17.0	11.8	19.2
Terminated	16.4	17.4	11.9	19.3
Continued	9.6	12.0	10.8	18.0
UNIV. - Total	14.4	15.1	11.8	16.7
Terminated	16.0	16.1	13.2	18.5
Continued	11.9	13.4	9.4	13.6
COLLEGES - Total	17.0	18.9	13.4	20.4
Terminated	18.4	19.5	15.0	21.5
Continued	9.9	14.5	5.0	11.8
1963 - Total	22.4	25.1	15.0	27.9
Terminated	23.9	26.7	14.7	33.6
Continued	18.8	21.1	15.8	20.0
1964 - Total	17.3	18.9	14.1	23.8
Terminated	19.1	20.5	15.4	28.7
Continued	11.6	13.6	9.9	11.5
1965 - Total	18.3	19.0	13.1	19.5
Terminated	20.2	20.8	14.0	20.7
Continued	11.2	11.9	9.6	14.8
1966 - Total	13.4	13.9	10.8	14.6
Terminated	13.8	13.8	12.3	15.8
Continued	12.1	14.2	6.8	10.8
1967 - Total	10.6	12.2	10.9	14.9
Terminated	12.8	13.6	13.6	15.6
Continued	4.1	6.2	2.9	8.7

clerks, and students for universities. General office clerk was the only employment classification listed by more than one junior college certificate holder who continued. Ranking of initial employment by institution and by years is indicated in Tables XLV and XLVI, respectively.

The null hypothesis was rejected at the .05 level with a chi-square of 51.92, 15.48, 15.28, 30.66, 6.81, 14.61, 7.32, 6.21, 4.98, and 8.29 when the initial status as a student for total respondents, universities, OSU, colleges, CSC, SSC, 1963, 1964, 1966, and 1967, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 3.90, 5.48, and 4.70 when the initial employment as a stenographer for total respondents, universities, and OSU, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.76 when the initial employment as a secretary for 1964 was compared for those who terminated and for those who continued.

Present Employment. The null hypothesis was rejected at the .05 level with a chi-square of 5.96 for 1967 when the present employment in state or out of state of respondents was compared for those who terminated and for those who continued. Table XLVII reflects the present state of employment or residence of respondents.

Oklahoma had the largest number with 301 residents of the 418 respondents, while Texas was second with 37. Following in number of residents were Kansas, California, Missouri, and Colorado. For a small percentage of the respondents, the first employment and the present employment was the same.

TABLE XLV  
RANK OF INITIAL EMPLOYMENT BY INSTITUTION\*

	1	2	3	4	5	6	7	8
TOTAL								
Terminated				1	3	2		
Continued		2		1		3		
OSU								
Terminated				1	2	3		
Continued				1	3	2		
OU								
Terminated				1	2.5	2.5		
Continued				1	3	2		
CSC								
Terminated				1	3	2		
Continued		2		1				
ECSC								
Terminated				1		2		
Continued								
SSC								
Terminated				1		2	3	
Continued		1	3	2				
NOC								
Terminated				2		1	3	
Continued						1		
UNIVERSITIES								
Terminated				1	2	3		
Continued		2.5		1		2.5		
COLLEGES								
Terminated				1	3	2		
Continued		1.5	3	1.5				

\*Majors listing only one student are not ranked.

Note:

1. No job, not employed
2. Student
3. Business teacher
4. Secretary
5. Stenographer
6. General office clerk
7. Bookkeeper
8. Cashier-teller

TABLE XLVI  
RANK OF INITIAL EMPLOYMENT BY YEAR\*

	1	2	3	4	5	6	7	8
1963								
Terminated				1.5	3	1.5		
Continued		2.5	2.5	1				
1964								
Terminated	4			1	2	4		4
Continued		1.5		3.5	3.5	1.5		
1965								
Terminated				1	3	2		
Continued				1	2	3		
1966								
Terminated				1	3	2		
Continued	3			1		3	3	
1967								
Terminated				1	3	2		
Continued		2		1		3		

\*Majors listing only one student are not ranked.

Note:

1. No job, not employed
2. Student
3. Business teacher
4. Secretary
5. Stenographer
6. General office clerk
7. Bookkeeper
8. Cashier-teller



TABLE XLVII

## STATE OF PRESENT EMPLOYMENT OR RESIDENCE

	OSU	QU	CSC	ECSC	SSC	NOC	Total
STATE							
California	4	2	1	1		1	9
Colorado	5	1				2	8
Kansas	3		2		2	4	11
Missouri	3	1	1	1	3		9
Oklahoma	91	34	49	10	75	42	301
Texas	19	6	1	3	6	2	37
All Others	18	5	6	3	5	6	43
Total	143	49	60	18	91	57	418

Table XLIV indicates the mean months of employment for the present employment of respondents. The data indicated that except for 1963 those who terminated for all institutions and years had higher mean months employed. The range for those who terminated was from 16.2 months for SSC to 11.9 months for NOC. The range for those who continued was from 12.0 months for OSU to 1.8 months for CSC. The range by years for those who terminated was from 15.4 months in 1964 to 12.3 months in 1966. The range by year for those who continued was from 15.8 months in 1963 to 2.9 months in 1967.

When only employed respondents were considered, the range for those who terminated was from 23.0 months for SSC to 16.7 months for OU, while the range for those who continued was from 18.0 months for NOC to 7.0 months for CSC. The range by years for those who terminated was from 33.7 months in 1963 to 15.6 months in 1967, while for those who continued the range was from 20.0 months in 1963 to 8.7 months in 1967.

Approximately one-fourth of the student population was currently not employed.

The present employment status of the respondents was that of students, secretaries, and housewives for those who continued and secretaries, bookkeepers, and housewives for those who terminated. When the present employment classifications were ranked for universities, the first three classifications for those who terminated were secretaries, stenographers, and housewives, while those who continued ranked the three classifications as secretaries, housewives, and students and business teachers tied for third. Colleges for those who continued listed students, housewives, and business teachers and elementary teachers tied for third, in the top classifications, while those who terminated listed secretaries, bookkeepers, and housewives. For those who terminated in the junior college, housewives, stenographers, and secretaries were the most frequently named positions. The only classification listed more than once for those who continued at the junior college was student. Ranking of present employment by institution and by year is indicated in Tables XLVIII and XLIX, respectively.

The null hypothesis was rejected at the .05 level with a chi-square of 59.03, 12.70, 9.88, 37.70, 21.94, 11.41, 21.58, 13.54, and 44.33 when the present status of student for total respondents, universities, OSU, colleges, CSC, SSC, NOC, 1966, and 1967, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.54 and 5.16 when the present status of housewife for the total respondents and OSU, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level

TABLE XLVIII  
RANK OF PRESENT EMPLOYMENT BY INSTITUTION

	1	2	3	4	5	6	7	8	9	10
TOTAL										
Terminated		2				1		3		
Continued		3	1			2				
OSU										
Terminated		2				1		3		
Continued			3	2		1				
OU										
Terminated		2				1		3		
Continued		1	2			3				
CSC										
Terminated		2.5				1		2.5		
Continued			1							
ECSC										
Terminated		2				3		1		
Continued										
SSC										
Terminated		2				1		3		
Continued		3.5	1	3.5	2					
NOC										
Terminated		1				3		2		
Continued			1							
UNIVERSITIES										
Terminated		2				1		3		
Continued		2	3.5	3.5		1				
COLLEGES										
Terminated		2				1		3		
Continued		3	1	3	3					

Note:

1. No job, not employed
2. Housewife
3. Student
4. Business teacher
5. Elementary teacher
6. Secretary
7. Stenographer
8. General office clerk
9. Accountant
10. Other employment

TABLE XLIX  
RANK OF PRESENT EMPLOYMENT BY YEAR

	1	2	3	4	5	6	7	8	9	10
1963										
Terminated		1				2.5	2.5			
Continued		2		1	3					
1964										
Terminated	3	1				2				
Continued		3.5		1		2				
1965										
Terminated		2				1		3		
Continued	3	1				3			3	
1966										
Terminated		2				1		3		
Continued			2			1				3
1967										
Terminated		3.5				1	3.5	2		
Continued	3	1				2				

Note:

1. No job, not employed
2. Housewife
3. Student
4. Business teacher
5. Elementary teacher
6. Secretary
7. Stenographer
8. General office clerk
9. Accountant
10. Other employment

with a chi-square of 7.39, 6.68, 6.89, and 4.83 when the present employment of secretary for the total respondents, universities, OU, and colleges, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 10.25 when the present employment as a general office clerk was compared for those who terminated and for those who continued.

#### Student Plans for the Coming Year.

1. To continue working. The null hypothesis was rejected at the .05 level with a chi-square of 19.24 when student plans to continue working were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 6.37, 17.47, 8.22, and 24.33 when student plans to continue working for OU, SSC, CSC, and colleges, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 34.03 when student plans to continue working for 1967 were compared for those who terminated and for those who continued. Except for ECSC and 1964 respondents who terminated indicated a higher percentage of plans to continue working than those who continued. Table L shows the ranking of respondents' plans for the coming year.

2. To be a housewife. The null hypothesis was rejected at the .05 level with a chi-square of 7.70 and 6.55 when student plans to be a housewife for OSU and 1963, respectively, were compared for those who terminated and for those who continued. Except for OU, respondents for all institutions and years who terminated indicated a higher percentage of plans to be a housewife for the coming year than those who continued.

TABLE L  
RANK OF RESPONDENTS' PLANS FOR THE COMING YEAR\*

	1	2	3	4	5	6
TOTAL						
Terminated	3		1		2	
Continued			1		3	2
OSU						
Terminated		3	1		2	
Continued		1			2.5	2.5
OU						
Terminated			1		2	
Continued			3		1	2
CSC						
Terminated	3		1		2	
Continued						1
ECSC						
Terminated			1.5		1.5	
Continued	1.5		1.5			
SSC						
Terminated	3	1			2	
Continued	1.5				3	1.5
NOC						
Terminated		3	1		2	
Continued						1
UNIVERSITIES						
Terminated			1		2	3
Continued			1		2	3
COLLEGES						
Terminated	3		1		2	
Continued	2				3	1
1963						
Terminated			2	3	1	
Continued			2.5		2.5	1
1964						
Terminated	3		2		1	
Continued			1		2	3
1965						
Terminated	3		1		2	
Continued			3		1	2
1966						
Terminated	3		1		2	
Continued			1		3	2
1967						
Terminated		3	1		2	
Continued	1	2			3	

\* Plans listed by only one student are not ranked.

Note:

1. To go to college
2. To get a job
3. To continue working
4. To work at my home
5. To be a housewife
6. To teach

3. To teach. The null hypothesis was rejected at the .05 level with a chi-square of 75.83 when student plans to teach were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 12.73, 24.33, 27.75, 11.36, 18.89, and 52.97 when student plans to teach for OSU, SSC, CSC, NOC, universities, and colleges, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 19.19, 6.21, 15.55, 13.54, and 5.68 when student plans to teach for 1963, 1964, 1965, 1966, and 1967, respectively, were compared for those who terminated and for those who continued. Respondents who continued in all institutions and years indicated a greater percentage of plans to teach.

#### Student Future Plans.

1. Office work. The null hypothesis was rejected at the .05 level with a chi-square of 20.58 when student future plans of office work were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 9.95 and 12.78 with student future plans of office work for OSU and universities, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 8.17 and 6.33 when student future plans of office work for 1966 and 1967, respectively, were compared for those who terminated and for those who continued. All institutions and years indicated a higher percentage of future plans for office work for those who terminated.

2. Housewife. The null hypothesis was rejected at the .05 level with a chi-square of 19.66 when student future plans to be a housewife

were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 10.98, 5.17, 11.76, and 13.75 when student future plans to be a housewife for OSU, CSC, universities, and colleges, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 5.04 and 7.02 when student future plans to be a housewife for 1963 and 1967, respectively, were compared for those who terminated and for those who continued. Respondents who terminated in all institutions and years indicated a higher percentage of future plans to be a housewife.

3. Teacher. The null hypothesis was rejected at the .05 level with a chi-square of 62.78 when student future plans to be a teacher were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 19.55, 5.76, 26.04, 6.51, 26.80, and 38.30 when student future plans to be a teacher for OSU, OU, SSC, CSC, universities, and colleges, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 19.59, 17.59, and 5.16 when student future plans to be a teacher for 1963, 1965, and 1967, respectively, were compared for those who terminated and for those who continued. Respondents who continued in all institutions and years except NOC indicated a greater percentage of future plans to be teachers. Table LI shows the ranking of respondents' future plans.

Level of Education. The null hypothesis was rejected at the .05 level with a chi-square of 321.87 when the level of education of bachelor's degree or above was compared for those who terminated and for



TABLE LI  
RANK OF RESPONDENTS' FUTURE PLANS\*

	1	2	3	4	5
TOTAL					
Terminated	2			1	3
Continued		3		2	1
OSU					
Terminated	2			1	3
Continued		3		2	1
OU					
Terminated	2			1	
Continued				1	2
CSC					
Terminated	2			1	3
Continued					1
ECSC					
Terminated	2			1	
Continued					1
SSC					
Terminated	1			2	3
Continued	2				1
NOC					
Terminated	2			1	3
Continued		1.5		1.5	
UNIVERSITIES					
Terminated	2			1	3
Continued		3		2	1
COLLEGES					
Terminated	2			1	3
Continued	2	3			1
1963					
Terminated	2			1	3
Continued				2	1
1964					
Terminated	2			1	3
Continued	3			1	2
1965					
Terminated	2		3	1	
Continued		3		2	1
1966					
Terminated	2			1	3
Continued		2.5		2.5	1
1967					
Terminated	2			1	3
Continued		2		3	1

\* Plans listed by only one student are not ranked.

Note:

1. Office work
2. Professional
3. Executive
4. Housewife
5. Teacher

those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 130.12, 37.65, 40.72, 27.75, 11.36, 171.26, and 88.59 when the level of education of bachelor's degree or above for OSU, OU, SSC, CSC, NOC, universities, and colleges, respectively, was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level using exact probability (Fisher Exact Probability Method) when the level of education (bachelor's degree or above) for ECSC was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 62.17, 48.33, 70.13, 85.25, and 40.82 when the level of education of bachelor's degree or above for 1963, 1964, 1965, 1966, and 1967, respectively, was compared for those who terminated and for those who continued. In all institutions and years the attained level of education was greater for those who continued.

Colleges Attended After Receiving the Certificate. The respondents were compared on the basis of the number of colleges they attended since receiving the certificate. Except for respondents who received the certificate in the same semester in which the bachelor's degree was obtained, all students who continued had attended at least one institution. The mean institutions for those who continued from universities were 1.21 institutions; those from the junior college attended 1.20 institutions; and those from colleges attended 1.11 institutions. All of the students who continued from CSC and ECSC, respectively, continued at the same institution. Respondents who terminated attended .31 institutions for the junior college, .26 institutions for universities, and .16 institutions for colleges. Table LII shows the number of colleges certificate holders attended after receiving the

certificate.

TABLE LII

## NUMBER OF INSTITUTIONS ATTENDED AFTER RECEIPT OF THE CERTIFICATE

	Terminated	Continued	Total Respondents
TOTAL	.22	1.18	.46
INSTITUTION			
Oklahoma State University	.25	1.20	.58
University of Oklahoma	.29	1.24	.69
Central State College	.15	1.00	.27
East Central State College	.21	1.00	.39
Southwestern State College	.16	1.19	.34
Northern Oklahoma College	.31	1.20	.39
Universities	.26	1.21	.61
Colleges	.16	1.11	.32
YEAR			
1963	.29	1.21	.55
1964	.16	1.43	.46
1965	.15	1.24	.38
1966	.26	1.07	.48
1967	.24	1.11	.45

The null hypothesis was rejected at the .05 level with a chi-square of 23.00 when colleges attended after receiving the certificate was compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level with a chi-square of 17.36, 29.14, 5.32, 6.97, and 5.27 when colleges attended after receiving the certificate for OSU, universities, colleges, 1966, and

1967, respectively, were compared for those who terminated and for those who continued. The null hypothesis was rejected at the .05 level using exact probability (Fisher Exact Probability Method) when colleges attended after receiving the certificate for OU, SSC, NOC, and 1963 were compared for those who terminated and for those who continued.

Major for Respondents Who Continued. The major of business education was ranked number one for all institutions and years. Universities ranked business education, office management, and accounting as the most popular majors. Colleges ranked business education, elementary education, and office management in the top three majors. Only business education was chosen by more than one student at the junior college. Table LIII lists the ranking of majors for respondents who continued.

TABLE LIII

RANK OF COLLEGIATE MAJOR FOR STUDENTS WHO CONTINUED\*

	Majors					
	1	2	3	4	5	6
TOTAL	1	2	4	5.5	3	5.5
INSTITUTION						
Oklahoma State University	1	2			3	4
University of Oklahoma	1					
Central State College	1					
East Central State College	1					
Southwestern State College	1		2			
Northern Oklahoma College	1					
YEARS						
1963	1	2				
1964	1	2				
1965	1	2,5			2.5	
1966	1	2			3	
1967	1	2		3.5	3.5	

\* Majors listing only one student are not ranked.

Note:

1. Business Education
2. Office Management
3. Elementary Education
4. General Business -- Business Administration
5. Accounting
6. Sociology

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine student characteristics that predict collegiate termination of business certificate students from the public institutions of higher learning in Oklahoma. Students in business and office education who received the business certificate but did not complete a bachelor's degree were classified as terminated, while all other students were classified as continued.

Two hypotheses were examined in this study. The first hypothesis assumed that there was no significant difference at the .05 level of confidence between means of parametric data for students who continued their collegiate education after receiving the business certificate and students who terminated their collegiate education after receipt of the business certificate. The statistical test utilized for testing differences between means of all parametric data was the analysis of variance. The Edwards' test was used to test for homogeneity of variances. The second hypothesis assumed that there was no significant difference at the .05 level of confidence between student characteristics (non-parametric data) of those who terminated and those who continued. The statistical test utilized for testing differences in student characteristics was the chi-square corrected for continuity. Parametric data were collected from 502 students from six state institutions. A questionnaire was mailed to all students and 418 replies were received.

Summaries by institution, by year, and by student characteristic variables are presented below. Variables found to be significant at the .05 level of confidence were classified as significant; variables significant at the .01 level of confidence were classified as highly significant; and variables significant at the .001 level of confidence were classified as most significant.

#### Summary by Institutions

Oklahoma State University. Significant differences were found between students who terminated and those who continued at OSU. Parametric variables found to be highly significant were the initial college grade-point average and the overall grade-point average at the time the business certificate was received. The high school grade-point average in social studies was found to be significant. Non-parametric variables that were most significant included marriage, parental influence for the student to continue collegiate education, student ranking of marriage as a reason for not continuing, students who would borrow and repay for further education, initial status as a student for those who continued, and student plans to teach during the coming year for those who continued. The future plans were to be teachers for students who continued. The future plans of those who terminated were to be housewives. The level of education attained and number of educational institutions attended after receiving the certificate were also most significant variables. Highly significant variables were plans to continue education, present status as a student, plans to be a housewife during the coming year, and future plans to be employed in office work for those who terminated. Significant variables were present status

as a housewife for those who terminated and rating of chances for obtaining employment.

University of Oklahoma. Parametric data differences were not significant between students who terminated and students who continued. Significant non-parametric data differences were found between students who terminated and those who continued at OU. The most significant variables were the mother's education, level of collegiate education attained, and educational institution attended after receiving the business certificate. Highly significant variables were marriage and present employment as a secretary. Significant variables were plans of students who terminated to work during the coming year, future plans of those who continued, plans to be a teacher, and parental influence to further collegiate education.

Central State College. Parametric variables that indicated highly significant differences between students who terminated and continued at CSC were the English ACT standard scores. Significant differences were found for the variables of the composite ACT standard score, the English ACT percentile, the social studies ACT percentile, the composite ACT percentile, and the miles traveled from high school to college. The most significant non-parametric variables were level of collegiate education attained, present status as a student, and plans to teach during the coming year for students who continued. Highly significant variables included initial status after receiving the certificate as a student for those who continued and plans for the coming year to continue working for those who terminated. For the non-parametric data, significant variables were no older sister, future plans to be a teacher for those who continued, and future plans to be a housewife for those who



terminated.

East Central State College. The parametric variable that was significant was the high school grade-point average in home economics. No other parametric or non-parametric significant differences were found except that the level of collegiate education attained was most significant. ECSC students tended to have about the same characteristics as students in the other institutions of the collegiate classification.

Southwestern State College. Significant differences in parametric variables were found for the natural sciences ACT standard score, the composite ACT standard score, the natural sciences ACT percentile, semesters of high school mathematics, and the academic high school grade-point average. Non-parametric variables that were the most significant were initial status and present status as a student, plans to teach for the coming year, plans to continue working, and the level of collegiate education attained. Whether students would borrow funds and repay to continue their collegiate education was found to be highly significant. Significant differences were found when the variables of marriage and educational institutions attended after receiving the certificate were utilized to compare student characteristics.

Northern Oklahoma College. No significant parametric variables were found for NOC. Non-parametric variables that were most significant were the present status as a student for those who continued, plans to teach during the coming year for those who continued, and level of collegiate education attained. Educational institutions attended after receiving the certificate was a significant variable.

Colleges. No significant parametric differences were found for the four-year college student. Non-parametric variables found to be

the most significant were student borrowing and repaying for further education, the initial and present status as a student, plans to teach during the coming year, and future plans to teach. Students who terminated planned to continue working during the coming year and then to be housewives in the future. The level of collegiate education attained was also most significant. Highly significant variables included marriage and whether the student would continue education. The present employment as a secretary and educational institutions attended after receiving the certificate were significant variables.

Universities. Significant parametric variable differences were found for the initial college grade-point average and the overall grade-point average at the time the business certificate was received. Significant non-parametric variables included rating of prospects for obtaining employment and initial employment as a stenographer for students who terminated. Highly significant variables were identified as a desire to continue education after receipt of certificate, student borrowing and repaying for further education, and present employment as a secretary for students who terminated. Most significant variables were marriage, parental influence to further collegiate education, initial and present status as a student, and plans to teach both in the coming year and in the future for students who continued. The plans for the future for those who terminated were to be either in office work or to be housewives; level of collegiate education attained and educational institutions attended after receiving the business certificate were also most significant variables.

## Summaries by Year

1963. Highly significant parametric variables included age and semesters of high-school business. Significant variables were the high school grade-point average in English and the high school grade-point average in mathematics. Significant non-parametric variables were occupation of the father (executive employment), marriage, to continue education, and plans for students who terminated to be housewives for both the present and coming year. Highly significant variables were identified as lack of interest in college as a reason for terminating and initial status as a student. The most significant variables were parental influence to further collegiate education, plans of student who continued to teach during the coming year and in the future, level of collegiate education attained, and educational institutions attended after receiving the certificate.

1964. No significant parametric differences were found in 1964. Significant non-parametric differences included continuing education, borrowing and repaying for further education, initial status as a student for those who continued, initial employment as secretaries for those who terminated, and student plans to teach for the coming year for those who continued. The most significant variables were parental influence to further collegiate education and level of college education attained.

1965. The most significant parametric variables were the composite ACT standard scores, percentile scores, and semesters of high school mathematics. Significant variables were the English ACT standard score, mathematics ACT standard score, English ACT percentile,

mathematics ACT percentile, and semesters of high school home economics. Significant non-parametric variables were the mother's education, plans to continue education at a university, and interest in office occupations. The most significant variables were the student's plans to be a teacher for the coming and future year and level of collegiate education attained.

1966. Significant parametric variables were the English ACT percentile and semesters of high school social studies. The most significant non-parametric variables were marriage, present status as a student, student plans to teach during the coming and future year, and level of collegiate education attained. Highly significant variables were parental influence to further collegiate education, plans to continue education at a university, student future plans for office work for those who terminated, and educational institutions attended after receiving the business certificate. Significant variables were marital status, continue education, continue education at a state four-year college, initial status as a student, and initial employment as a general office clerk.

1967. The only significant parametric variable for 1967 was semesters of high school mathematics. Significant non-parametric variables were occupation of the father (deceased), parental influence to continue collegiate education, lack of interest in college as a reason for terminating, need for additional education, and state of first employment. In addition, student plans to teach during the coming year and in the future, student future plans to engage in office work, and educational institutions attended after receiving the business certificate were also significant variables. Highly significant variables

included marriage, student borrowing and repaying for further education, and future plans to be a housewife by those who terminated. The most significant variables were initial and present status as a student, student plans to continue working in the coming year, and level of collegiate education attained.

#### Summary of Total Student Characteristics

Parametric Student Characteristics. Highly significant variables were the mathematics and the composite ACT standard scores, the mathematics and the composite ACT percentiles, and the semesters of high school mathematics. Significant variables were the English and social studies ACT standard scores, the English and social studies percentile scores, semesters of high school foreign languages, and semesters of high school home economics.

Non-parametric Student Characteristics. a. Variables affecting termination upon receipt of the certificate: The most significant variables were the mother's education, marriage, parental influence to further education, and interest in office occupations. Highly significant variables were the father's education, marital status, and lack of interest in college as a reason for terminating. Significant variables were occupation of the father (professional and executive employment, and owning, renting, or managing a farm or ranch), parental influence to work, marriage, and lack of interest in college as students' reasons for terminating.

b. Variables resulting from termination or continuation after receipt of the certificate: Significant variables were that the college student would like to attend if continued collegiate education,

continuing at a state four-year college, initial employment as a stenographer, and present status as a housewife. Highly significant variables were present employment as a secretary and general office clerk and plans to be a housewife during the coming year. The most significant variables were students' intentions to continue education, continuing education at a university, initial and present status as a student, plans for the coming year to continue working for those who terminated, and to teach for those who continued. In addition, future plans to be a teacher for those who continued, and engage in office work and to be housewives for those who terminated, were most significant variables. Another most significant variable was the level of collegiate education attained indicating the validity of classification of students as those who terminated or those who continued.

### Conclusions

1. Student characteristics for those who terminated and for those who continued can be identified. These characteristics vary, depending upon the institution and to a lesser degree, the year under study.

2. The data for the total sample in the study indicate that statistically significant student characteristics can be identified which will tend to predict student termination or student continuation.

3. The high school grade-point average and the collegiate academic record are not adequate predictors of collegiate termination or continuation for student who receive the business certificate. The ACT mathematics and composite scores tend to be the best parametric predictors of collegiate termination or continuation for students who receive the business certificate.

4. Student characteristics of non-parametric nature such as marriage and parental influence to further collegiate education tend to be the most significant predictors of collegiate termination or continuation of students who received the business certificate.

5. Many of the other more significant variables tend to be a function of the level of education completed. The significance of initial and present employment, student present and future plans, and educational institutions attended after receiving the business certificate are results of the level of education attained.

6. Utilization of both parametric data (ACT scores and the high school record) and non-parametric data (socioeconomic characteristics) tend to give the best prediction of student termination or continuation for the certificate holder.

7. Institutional character for the institutions studied must be considered when determining the effectiveness of the variables as predictors of termination or continuation.

8. The year the certificate was received was not a determinant of student termination or continuation, although some growth in the level of ACT scores and semesters of academic credits was evident.

9. University students tended to have somewhat higher ACT scores and high school academic grades than the college student or the junior college students. The college students generally had higher scores than the junior college students. Students who continued generally had higher ACT scores and higher high school grades than those who terminated.

10. Socioeconomic differences tend to be the same as those expected from different levels of institutions. Higher status can

generally be attributed to universities and more urban (location) colleges with somewhat lower status for the rural (location) colleges and the junior college.

#### Recommendations

1. Additional study of business certificate students should be continued at the institutions which have such programs.
2. Early identification of business certificate students is essential for the adequate counseling of these students. Little effort is currently made to identify students by name who are enrolled in the certificate programs. This lack of identification tends to create dropouts or transfers before receipt of the business certificate.
3. Student characteristic patterns identified as significant in this study should be utilized by those who advise beginning certificate students.
4. It would be profitable to maintain a regular investigation of the variables of student termination for each institution.
5. Institutional follow-up should be on a continuing basis.
6. Investigation should be made into the motivational and psychological determinants that influence collegiate persistence of certificate holders.
7. Students who terminate their training after receiving the certificate should be considered a part of the labor supply by all manpower planners in Oklahoma. State-wide studies and follow-up studies of the employment status of such certificate students should be developed. In addition, the results of this study could be utilized by the new Occupational Training Information System.



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APPENDIX A



## I N S T R U C T I O N S

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This instrument is an endeavor to determine characteristics of business certificate holders. The "Business Certificate" is defined as the award to a student who has completed a specific secretarial or clerical program consisting of two years at a university, forty semester hours at a state college or a one year program at a junior college.

Select the answer which is true or most nearly true for you and circle the appropriate answer. YOUR ANSWERS WILL BE TREATED CONFIDENTIALLY.

1. What is the highest level of education your father attained?
 

a. less than high school	e. attended college
b. attended high school	f. graduated from college-
c. graduated from high school	Bachelor's degree
d. attended trade or private business school	g. has Master's degree
	h. has Doctor's degree
	i. "don't know"
  
2. What is the highest level of education your mother attained?
 

a. less than high school	e. attended college
b. attended high school	f. graduated from college-
c. graduated from high school	Bachelor's degree
d. attended trade or private business school	g. has Master's degree
	h. has Doctor's degree
	i. "don't know"
  
3. What is the highest level of education your brother (immediately older than you) has attained?
 

a. not applicable, no older brother	f. attended college
b. less than high school	g. graduated from college-
c. attended high school	Bachelor's degree
d. graduated from high school	h. has Master's degree
e. attended trade or private business school	i. has Doctor's degree
	j. "don't know"
  
4. What is the highest level of education your sister (immediately older than you) has attained?
 

a. not applicable, no older sister	f. attended college
b. less than high school	g. graduated from college-
c. attended high school	Bachelor's degree
d. graduated from high school	h. has Master's degree
e. attended trade or private business school	i. has Doctor's degree
	j. "don't know"

5. At the time you received the business certificate your father was engaged in the following occupation:
- office work (cashier, clerk, bookkeeper, etc.)
  - professional (doctor, lawyer, minister, teacher, etc.)
  - executive (manages large business, industry, firm)
  - laborer (janitor, farm hand, plumber's helper, waiter, truck driver, etc.)
  - salesman (insurance, real estate, auto, store, etc.)
  - skilled work (mechanic, welder, appliance serviceman, etc.)
  - owns, rents, manages small business (store, station, cafe, etc.)
  - owns, rents, manages farm or ranch
  - military service
  - disabled
  - retired
  - deceased
  - "don't know"
6. At the time you received the business certificate your mother was engaged in the following occupation:
- office work (cashier, clerk, bookkeeper, etc.)
  - professional (doctor, lawyer, minister, teacher, etc.)
  - executive (manages large business, industry, firm)
  - laborer (waitress, etc.)
  - saleslady (insurance, real estate, stores, etc.)
  - skilled work (industrial, plant, etc.)
  - owns, rents, manages small business (store, station, cafe, etc.)
  - owns, rents, manages farm or ranch
  - housewife
  - disabled
  - retired
  - deceased
  - "don't know"
7. In terms of income or wealth in my community at the time I received the business certificate, I think my family was:
- considerably above average
  - somewhat above average
  - average
  - somewhat below average
  - considerably below average
8. Did marriage or plans for marriage limit your college educational plans after you received the business certificate?
- yes
  - no

9. At the time you received the business certificate your marital status was:
- a. single
  - b. married
  - c. separated or divorced
  - d. widowed
  - e. engaged
10. After I received the business certificate, my parents:
- a. wanted me to continue with college
  - b. wanted me to go to work
  - c. did not express an opinion on college or work
  - d. wanted me to make my own decision
  - e. other \_\_\_\_\_
11. Please rank the following according to the three (3) most important reasons you feel are the most responsible for business students leaving college after receiving the business certificate. Rank the most important reason 1; the next most important, 2; and the next most important, 3.
- a. lack of interest in college
  - b. financial needs
  - c. illness
  - d. lack of ability
  - e. family and home responsibilities
  - f. college curriculum
  - g. marriage
  - h. family attitude toward college
  - i. to get away from home
  - j. no desire for additional college work
  - k. desire to work or for work experience
  - l. to be on their own
  - m. other \_\_\_\_\_
12. Have you ever considered continuing your education or training after receiving the business certificate?
- a. yes
  - b. no
13. If the answer to question 12 is no, would you consider it if you had the money?
- a. yes
  - b. no
  - c. "don't know"
  - d. no answer because yes above
14. Would you borrow money for educational expenses if you could pay it back after finishing further education or training?
- a. yes
  - b. no
  - c. "don't know"

15. The person who most influenced you to attend a college to receive the business certificate was:
- |                                    |                            |
|------------------------------------|----------------------------|
| a. a high school teacher           | g. college personnel       |
| b. my high school counselor        | h. myself                  |
| c. my parents                      | i. older brother or sister |
| d. friends my own age              | j. older relative          |
| e. my husband                      | k. employer                |
| f. my high school business teacher | l. other _____             |
16. If you were to continue your collegiate education, which type of college would you attend?
- |                            |                             |
|----------------------------|-----------------------------|
| a. vocational or technical | e. private business college |
| b. junior college          | f. university               |
| c. state four-year college | g. I don't know             |
| d. liberal arts college    | h. one closest to home      |
|                            | i. other _____              |
17. Instead of attending the college from which you received the business certificate, which of the following types would you have preferred to attend?
- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| a. vocational or technical school | e. liberal arts college           |
| b. junior college                 | f. university                     |
| c. state four-year college        | g. attend the <u>same</u> college |
| d. private business college       | h. other _____                    |
18. I feel that the training I received in the business certificate program had this degree of adequacy in preparing me for future job opportunities:
- |   |
|---|
| a. best training I could receive          |
| b. good training program                  |
| c. adequate training program              |
| d. training program needs improvement     |
| e. completely inadequate training program |
19. I believe that additional education will be necessary for me to adequately handle the requirements of a job for which the business certificate student prepares. If you agree with the above statement, mark "yes," if you disagree, mark "no."
- |        |                 |
|--------|-----------------|
| a. yes | c. I don't know |
| b. no  |                 |
20. After completing the business certificate program I felt that my chances for getting a job were:
- |              |                 |
|--------------|-----------------|
| a. excellent | d. poor         |
| b. good      | e. I don't know |
| c. fair      |                 |

21. In your opinion, is a business certificate program necessary to obtain adequate employment in the office occupations area?

- a. no  
b. yes
- c. I don't know

22. How interested are you in the occupation for which you received the business training?

- a. very interested  
b. interested  
c. mildly interested
- d. little interested  
e. not interested

23. What was the job of your father at the time you received the business certificate?

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JOB TITLE

24. What was the job of your mother at the time you received the business certificate?

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JOB TITLE

25. What was your first job after receiving the business certificate?

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JOB TITLE

- a. none, not employed, no job  
b. housewife  
c. student  
d. business teacher  
e. elementary teacher  
f. salesperson  
g. secretary  
h. stenographer  
i. general office clerk  
j. bookkeeper  
k. accountant  
l. office manager, management trainee  
m. nurses aide  
n. keypunch operator  
o. tabulating machine operator  
p. cashier-teller  
q. medical records or medical secretary  
r. secondary teacher  
s. sales manager  
t. other
-

26. Who was the employer of your first job after receiving the certificate?

Employer	City	State
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- a. in state  
b. out of state

27. What was the length of employment of your first job?  
\_\_\_\_\_ (months)

28. What is your present job? \_\_\_\_\_

JOB TITLE

- a. none, not employed, no job  
b. housewife  
c. student  
d. business teacher  
e. elementary teacher  
f. salesperson  
g. secretary  
h. stenographer  
i. general office clerk  
j. bookkeeper  
k. accountant  
l. office manager, management trainee  
m. nurses aide  
n. keypunch operator  
o. tabulating machine operator  
p. cashier-teller  
q. medical records or medical secretary  
r. secondary teacher  
s. sales manager  
t. other \_\_\_\_\_

29. Who is your present employer? \_\_\_\_\_

Employer

City	State
------	-------

- a. in state  
b. out of state

30. How long have you been with this employer? \_\_\_\_\_ (months)

31. My plans for the coming year involve:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| a. to go to college                 | e. to work at my home       |
| b. to get a job                     | f. I have no plans          |
| c. to continue working              | g. to be a housewife        |
| d. to enter into a training program | h. to teach                 |
|                                     | i. to graduate from college |
|                                     | j. other _____              |

32. Eventually I hope to be in the following vocation:

- |   |  |
|---|--|
| a. office work                            | h. own or rent or manage a ranch or farm |
| b. professional                           | i. housewife                             |
| c. executive                              | j. teacher                               |
| d. labor                                  | k. undecided                             |
| e. sales                                  | l. other _____                           |
| f. skilled work                           |  |
| g. own or rent or manage a small business |  |

33. What is the highest level of college education you have attained (in semester hours)?

- |                 |                      |
|-----------------|----------------------|
| a. 30 hours     | e. Bachelor's degree |
| b. 31-60 hours  | f. Master's degree   |
| c. 61-90 hours  | g. Doctor's degree   |
| d. 91-120 hours | h. other _____       |

34. How many colleges have you attended since receiving the business certificate?

- 0            1            2            3            4            5

35. Name the colleges (Question 34):

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Name of college	City and State
-----------------	----------------

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Name of college	City and State
-----------------	----------------

- a. same school  
b. different school  
c. none

36. If you continued your collegiate education after you received the business certificate, what was your college major?

- a. not applicable  
b. business education  
c. home economics  
d. office management or administration  
e. elementary education

- f. general business or business administration
- g. accounting
- h. health and physical education
- i. psychology
- j. sociology
- k. computer science
- l. English
- m. math
- n. Bible
- o. other \_\_\_\_\_



APPENDIX B

**|R|C|U|** VOCATIONAL RESEARCH  
COORDINATING UNIT

Oklahoma State University  
Stillwater, Oklahoma 74074  
Gundersen Hall 302  
AC 405, FRontler 2-6211  
Extension 6204

Office of the Director

January 7, 1969

Dear Business Certificate Holder:

The Research Coordinating Unit at Oklahoma State University is engaged in a study of the characteristics of secretarial and clerical business certificate holders.

Your response will help us give assistance to future business certificate holders. The information gathered will remain strictly confidential and in no instance will your name be used.

Won't you take about ten minutes of your time to answer this questionnaire. Your cooperation in the collection of data is essential to the success of this study. Please complete this questionnaire and return it to us in the enclosed stamped envelope as soon as possible.

Sincerely,

Harry Nowka  
Research Associate  
Business Certificate Study

Enclosures

APPENDIX C



VOCATIONAL RESEARCH  
COORDINATING UNIT

Oklahoma State University  
Stillwater, Oklahoma 74074  
Gundersen Hall 302  
AC 405, Frontier 2-6211  
Extension 6204

Office of the Director

January 28, 1969

Dear Business Certificate Holder:

Three weeks ago a questionnaire was mailed to you. In case you have misplaced the first questionnaire another copy is enclosed. This questionnaire is an attempt to determine the characteristics of students such as you who received the secretarial or clerical business certificate.

We need your assistance in returning the completed questionnaire to insure the validity of the statistics of the study. Remember that this information will remain confidential and your name will not be used.

Please take a few minutes to complete the questionnaire and return it to us in the enclosed self-addressed stamped envelope.

Sincerely,

Harry Nowka  
Research Associate  
Business Certificate Study

Enclosures

APPENDIX D

**|R|C|U|** VOCATIONAL RESEARCH  
COORDINATING UNIT

Oklahoma State University  
Stillwater, Oklahoma 74074  
Gundersen Hall 302  
AC 405, FRontier 2-6211  
Extension 6204

*Office of the Director*

February 19, 1969

HELP!!! WE NEED YOUR ASSISTANCE!!!

Several weeks ago you were mailed a questionnaire on the characteristics of students who received the secretarial or clerical business certificate. It is absolutely necessary that your response be included in our study.

Even though you may not have enjoyed your college work, have never worked in business, and discontinued college after receiving the business certificate, we do want to hear from you.

Please take a few minutes to complete the questionnaire and return it immediately to us.

Sincerely,

Harry Nowka  
Research Associate  
Business Certificate Study

APPENDIX E



VOCATIONAL RESEARCH  
COORDINATING UNIT

Oklahoma State University  
Stillwater, Oklahoma 74074  
Gundersen Hall 302  
AC 405, FRontier 2-6211  
Extension 6204

Office of the Director

March 21, 1969

PLEASE!! YOU ARE IMPORTANT!!

Several of you from Oklahoma State University have not returned your questionnaires. Your response is essential so that the summarized data will represent fairly the secretarial and clerical students of Oklahoma State University.

Please complete this questionnaire and return it to us in the enclosed stamped envelope as soon as possible.

Sincerely,

Harry Nowka  
Research Associate  
Business Certificate Study

Enclosures



APPENDIX F

## Questionnaire -- Card 1

Column 1            1 - Questionnaire

Column 2            1 - OSU  
                      2 - OU  
                      3 - SSC  
                      4 - CSC  
                      5 - ECSC  
                      6 - NOC

Column 3            3 - 1963  
                      4 - 1964  
                      5 - 1965  
                      6 - 1966  
                      7 - 1967

Columns 4-5        Student Number 01 - 54

Column 6            0 - no response  
                      1 - less  
                      2 - attended high school  
                      3 - graduated from high school  
                      4 - attended trade or private business school  
                      5 - attended college  
                      6 - graduated from college - Bachelor's degree  
                      7 - has Master's degree  
                      8 - has Doctor's degree  
                      9 - don't know

Column 7            0 - no response  
                      1 - less than high school  
                      2 - attended high school  
                      3 - graduated from high school  
                      4 - attended trade or private business school  
                      5 - attended college  
                      6 - graduated from college - Bachelor's degree  
                      7 - has Master's degree  
                      8 - has Doctor's degree  
                      9 - don't know

Columns 8-9        0 - no response  
                      1 - not applicable, no older brother  
                      2 - less than high school  
                      3 - attended high school  
                      4 - graduated from high school  
                      5 - attended trade or private business school  
                      6 - attended college  
                      7 - graduated from college - Bachelor's degree  
                      8 - has Master's degree  
                      9 - has Doctor's degree  
                      10 - don't know

- Columns 10-11
- 0 - no response
  - 1 - not applicable, no older sister
  - 2 - less than high school
  - 3 - attended high school
  - 4 - graduated from high school
  - 5 - attended trade or private business school
  - 6 - attended college
  - 7 - graduated from college - Bachelor's degree
  - 8 - has Master's degree
  - 9 - has Doctor's degree
  - 10 - don't know
- Columns 12-13
- 0 - no response
  - 1 - office work (cashier, clerk, bookkeeper, etc.)
  - 2 - professional (doctor, lawyer, minister, teacher, etc.)
  - 3 - executive (manages large business, industry, firm)
  - 4 - laborer (janitor, farm hand, plumber's helper, waiter, truck driver)
  - 5 - salesman (insurance, real estate, auto, store, etc.)
  - 6 - skilled work (mechanic, welder, appliance serviceman, etc.)
  - 7 - owns, rents, manages small business (store, station, cafe, etc.)
  - 8 - owns, rents, manages farm or ranch
  - 9 - military service
  - 10 - disabled
  - 11 - retired
  - 12 - deceased
  - 13 - don't know
- Columns 14-15
- 0 - no response
  - 1 - office work (cashier, clerk, bookkeeper, etc.)
  - 2 - professional (doctor, lawyer, minister, teacher, etc.)
  - 3 - executive (manages large business, industry, firm)
  - 4 - laborer (waitress, etc.)
  - 5 - saleslady (insurance, real estate, stores, etc.)
  - 6 - skilled work (industrial, plant, etc.)
  - 7 - owns, rents, manages small business (store, station, cafe, etc.)
  - 8 - owns, rents, manages farm or ranch
  - 9 - housewife
  - 10 - disabled
  - 11 - retired
  - 12 - deceased
  - 13 - don't know
- Column 16
- 0 - no response
  - 1 - considerably above average
  - 2 - somewhat above average
  - 3 - average
  - 4 - somewhat below average
  - 5 - considerably below average

- Column 17      0 - no response  
                 1 - yes  
                 2 - no
- Column 18      0 - no response  
                 1 - single  
                 2 - married  
                 3 - separated or divorced  
                 4 - widowed  
                 5 - engaged
- Column 19      0 - no response  
                 1 - wanted me to continue with college  
                 2 - wanted me to go to work  
                 3 - did not express an opinion on college or work  
                 4 - wanted me to make my own decision  
                 5 - other
- Columns 20-21   0 - no response  
                 1 - lack of interest in college  
                 2 - financial needs  
                 3 - illness  
                 4 - lack of ability  
                 5 - family and home responsibilities  
                 6 - college curriculum  
                 7 - marriage  
                 8 - family attitude toward college  
                 9 - to get away from home  
                 10 - no desire for additional college work  
                 11 - desire to work or for work experience  
                 12 - to be on their own  
                 13 - other
- Columns 22-23   Same as columns 20-21
- Columns 24-25   Same as columns 20-21
- Column 26      0 - no response  
                 1 - yes  
                 2 - no
- Column 27      0 - no response  
                 1 - yes  
                 2 - no  
                 3 - don't know
- Column 28      0 - no response  
                 1 - yes  
                 2 - no  
                 3 - don't know

- Columns 29-30
- 0 - no response
  - 1 - a high school teacher
  - 2 - my high school counselor
  - 3 - my parents
  - 4 - friends my own age
  - 5 - my husband
  - 6 - my high school business teacher
  - 7 - college personnel
  - 8 - myself
  - 9 - older brother or sister
  - 10 - older relative
  - 11 - employer
  - 12 - other
- Columns 31-32
- 0 - no response
  - 1 - vocational or technical school
  - 2 - junior college
  - 3 - state four-year college
  - 4 - liberal arts college
  - 5 - private business college
  - 6 - university
  - 7 - I don't know
  - 8 - one closest to home
  - 9 - other
- Columns 33-34
- 0 - no response
  - 1 - vocational or technical school
  - 2 - junior college
  - 3 - state four-year college
  - 4 - private business college
  - 5 - liberal arts college
  - 6 - university
  - 7 - attend the same college
  - 8 - other
- Column 35
- 0 - no response
  - 1 - best training I could receive
  - 2 - good training program
  - 3 - adequate training program
  - 4 - training program needs improvement
  - 5 - completely inadequate training program
- Column 36
- 0 - no response
  - 1 - yes
  - 2 - no
  - 3 - I don't know
- Column 37
- 0 - no response
  - 1 - excellent
  - 2 - good
  - 3 - fair
  - 4 - poor
  - 5 - I don't know

- Column 38      0 - no response  
                 1 - no  
                 2 - yes  
                 3 - I don't know
- Column 39      0 - no response  
                 1 - very interested  
                 2 - interested  
                 3 - mildly interested  
                 4 - little interested  
                 5 - not interested
- Columns 40-41   0 - no response  
                 1 - none, not employed, no job  
                 2 - housewife  
                 3 - student  
                 4 - business teacher  
                 5 - elementary teacher  
                 6 - salesperson  
                 7 - secretary  
                 8 - stenographer  
                 9 - general office clerk  
                 10 - bookkeeper  
                 11 - accountant  
                 12 - office manager, management trainee  
                 13 - nurses aide  
                 14 - keypunch operator  
                 15 - tabulating machine operator  
                 16 - cashier-teller  
                 17 - medical records or medical secretary  
                 18 - secondary teacher  
                 19 - sales manager  
                 20 - other
- Column 42      0 - no response  
                 1 - in state  
                 2 - out of state
- Columns 43-44   0 - 90 months
- Columns 45-46   Same as columns 40-41
- Column 47      0 - no response  
                 1 - in state  
                 2 - out of state
- Columns 48-49   Same as columns 43-44

- Columns 50-51
- 0 - no response
  - 1 - to go to college
  - 2 - to get a job
  - 3 - to continue working
  - 4 - to enter into a training program
  - 5 - to work at my home
  - 6 - I have no plans
  - 7 - to be a housewife
  - 8 - to teach
  - 9 - graduation from college
  - 10 - other
- Columns 52-53
- 0 - no response
  - 1 - office work
  - 2 - professional
  - 3 - executive
  - 4 - labor
  - 5 - sales
  - 6 - skilled work
  - 7 - own or rent or manage a small business
  - 8 - own or rent or manage a ranch or farm
  - 9 - housewife
  - 10 - teacher
  - 11 - other
  - 12 - undecided
- Columns 54-55
- 0 - no response
  - 1 - 30 hours
  - 2 - 31-60 hours
  - 3 - 61-90 hours
  - 4 - 91-120 hours
  - 5 - Bachelor's degree
  - 6 - Master's degree
  - 7 - Doctor's degree
  - 8 - other
- Column 56
- 0 - no response
  - 1 - 0
  - 2 - 1
  - 3 - 2
  - 4 - 3
  - 5 - 4
  - 6 - 5
- Column 57
- 0 - no response
  - 9 - none
  - 1 - same school
  - 2 - different school

Columns 58-59

- 0 - no response
- 1 - not applicable
- 2 - business education
- 3 - home economics
- 4 - office management or administration
- 5 - elementary education
- 6 - general business - business administration
- 7 - accounting
- 8 - H and PE
- 9 - history
- 10 - psychology
- 11 - sociology
- 12 - computer science
- 13 - English
- 14 - math
- 15 - Bible
- 16 - other

Column 60

- 1 - stopped
- 2 - continued

Columns 61-62

- 0 - no response
- 1 - Alabama
- 2 - Alaska
- 3 - Arizona
- 4 - Arkansas
- 5 - California
- 6 - Colorado
- 7 - Connecticut
- 8 - Delaware
- 9 - District of Columbia
- 10 - Florida
- 11 - Georgia
- 12 - Hawaii
- 13 - Idaho
- 14 - Illinois
- 15 - Indiana
- 16 - Iowa
- 17 - Kansas
- 18 - Kentucky
- 19 - Louisiana
- 20 - Maine
- 21 - Maryland
- 22 - Massachusetts
- 23 - Michigan
- 24 - Minnesota
- 25 - Mississippi
- 26 - Missouri
- 27 - Montana
- 28 - Nebraska
- 29 - Nevada
- 30 - New Hampshire
- 31 - New Jersey



Columns 61-62 32 - New Mexico  
(Continued) 33 - New York  
34 - North Carolina  
35 - North Dakota  
36 - Ohio  
37 - Oklahoma  
38 - Oregon  
39 - Pennsylvania  
40 - Puerto Rico  
41 - Rhode Island  
42 - South Carolina  
43 - South Dakota  
44 - Tennessee  
45 - Texas  
46 - Utah  
47 - Vermont  
48 - Virginia  
49 - Washington  
50 - West Virginia  
51 - Wisconsin  
52 - Wyoming  
53 - out of country

Columns 63-64 Same as columns 61-62

Column 75 1 - responded  
2 - did not respond

APPENDIX G

## Transcript Information -- Card 2

Column 1	2 - Transcript
Column 2	1 - OSU 2 - OU 3 - SSC 4 - CSC 5 - ECSC 6 - NOC
Column 3	3 - 1963 4 - 1964 5 - 1965 6 - 1966 7 - 1967
Columns 4-5	Student Number 01 - 54
Columns 6-7-8	200 - 500 Age in Months
Column 9	1 - 9 High School Code
Columns 10-11	1 - 36 English ACT Standard Score
Columns 12-13	1 - 36 Mathematics ACT Standard Score
Columns 14-15	1 - 36 Social Studies ACT Standard Score
Columns 16-17	1 - 36 Natural Sciences ACT Standard Score
Columns 18-19	1 - 36 Composite ACT Standard Score
Columns 20-21	1 - 99 English ACT Percentile
Columns 22-23	1 - 99 Mathematics ACT Percentile
Columns 24-25	1 - 99 Social Studies ACT Percentile
Columns 26-27	1 - 99 Natural Sciences ACT Percentile
Columns 28-29	1 - 99 Composite ACT Percentile
Columns 30-1-2-3	5 - 2,000 Miles From High School Graduated to College
Columns 34-35	0 - No Course Attempted 1 - 40 Semesters of Biological and Physical Sciences - HS
Columns 36-37	0 - No Course Attempted 1 - 40 Grade Point in Biological and Physical Sciences - HS

Columns 38-39	0 -	No Course Attempted
	1 - 40	Semesters of Social Sciences - HS
Columns 40-41	0 -	No Course Attempted
	1 - 40	Grade Point in Social Sciences - HS
Columns 42-43	0 -	No Course Attempted
	1 - 40	Semesters of English - HS
Columns 44-45	0 -	No Course Attempted
	1 - 40	Grade Point in English - HS
Columns 46-47	0 -	No Course Attempted
	1 - 40	Semesters of Foreign Languages - HS
Columns 48-49	0 -	No Course Attempted
	1 - 40	Grade Point in Foreign Languages - HS
Columns 50-51	0 -	No Course Attempted
	1 - 40	Semesters of Mathematics - HS
Columns 52-53	0 -	No Course Attempted
	1 - 40	Grade Point in Mathematics - HS
Columns 54-55	0 -	No Course Attempted
	1 - 40	Semesters of Vocational and/or Home Economics - HS
Columns 56-57	0 -	No Course Attempted
	1 - 40	Grade Point in Vocational and/or Home Economics - HS
Columns 58-59	0 -	No Course Attempted
	1 - 40	Semesters of All Other Vocational Programs - HS
Columns 60-61	0 -	No Course Attempted
	1 - 40	Grade Point in All Other Vocational Programs - HS
Columns 62-63	0 -	No Course Attempted
	1 - 40	Semesters of Vocational Courses - HS
Columns 64-65	0 -	No Course Attempted
	1 - 40	Grade Point in Vocational Courses - HS
Columns 66-67	0 - 60	Semesters of High School Academic Credits
Columns 68-69	1 - 40	Academic High School Grade Point Average
Columns 70-71	1 - 40	Initial College Grade Point Average
Columns 72-73	1 - 40	Grade Point at Time of Certificate - College

- Columns 74-75 Major Before Business
- 0 - Initially Enrolled in Secretarial Program
  - 1 - No Response
  - 2 - Not Applicable
  - 3 - Home Economics
  - 4 - Office Management or Administration
  - 5 - Elementary Education
  - 6 - General Business - Business Administration
  - 7 - Accounting
  - 8 - H and PE
  - 9 - History
  - 10 - Psychology
  - 11 - Sociology
  - 12 - Computer Science
  - 13 - English
  - 14 - Mathematics
  - 15 - Bible
  - 16 - Other
- Columns 76-77
- 0 - Initially Enrolled in Secretarial Program
  - 1 - 40 Grade Point Average Before Business
- Columns 78-79-
- 1 - 350 High School Size to Nearest Ten Students
- 80

APPENDIX H

TABLE LIV

## ANALYSIS OF VARIANCE OF STUDENT CHARACTERISTICS BY INSTITUTION

	Responded Mean	Did Not Respond Mean	F	df
TOTAL				
Semesters of HS English	8.56	8.90	4.27	1,499
UNIVERSITIES				
ACT Standard Score Mathematics	19.3	17.2	5.94	1,222
ACT Percentile Mathematics	48.2	38.6	4.70	1,222
OU				
ACT Standard Score Mathematics	20.7	16.3	9.94	1,65
ACT Percentile Mathematics	54.5	34.7	8.45	1,65
ACT Standard Score Composite	21.2	20.1	5.92	1,65
ACT Percentile Composite	52.2	39.4	4.33	1,65
Semesters of HS Biological and Physical Sciences	3.94	3.11	4.82	1,64
COLLEGE				
Semesters of HS Home Economics	4.91	3.69	7.00	1,169
JUNIOR COLLEGE				
NOC				
HSGPA for Mathematics	2.35	2.76	4.91	1,77
Semesters of HS Business	6.93	8.76	8.71	1,76

APPENDIX I



TABLE LV  
ANALYSIS OF VARIANCE OF STUDENT CHARACTERISTICS BY YEAR

	Responded Mean	Did Not Respond Mean	F	df
1966				
ACT Standard Score English	21.0	18.8	4.88	1,116
ACT Percentile English	57.3	43.2	4.49	1,116
ACT Standard Score Social Studies	19.7	16.6	6.84	1,116
ACT Percentile Social Studies	45.5	30.9	5.72	1,116
ACT Standard Score Natural Sciences	17.6	15.9	10.87	1,116
ACT Percentile Natural Sciences	42.3	26.1	9.16	1,116
ACT Standard Score Composite	19.7	17.0	9.37	1,116
ACT Percentile Composite	46.2	29.6	8.58	1,116
GPA for Initial College Attendance	2.72	2.39	4.61	1,94

**APPENDIX J**

TABLE LVI

EDWARDS' TEST FOR HOMOGENEITY OF VARIANCE FOR RESPONDING  
AND NON-RESPONDING STUDENTS

Student Characteristics	df	F
OSU		
HSGPA of Foreign Languages	102,11	5.84
COLLEGES		
Semesters of HS English	168,29	2.15
CSC		
Miles Traveled From High School to College	59,18	13.13
SSC		
Semesters of HS English	90,9	2.87
Semesters of HS Social Studies	90,9	2.44
JUNIOR COLLEGE		
NOC		
Miles Traveled From High School to College	56,21	2.03
Size of High School	56,21	2.85
YEAR		
1966		
HSGPA in English	99,17	1.76
HSGPA in Other Vocational Programs	4,0	∞
1967		
HSGPA in Foreign Languages	66,8	3.87

**APPENDIX K**

TABLE LVII

## ANALYSIS OF VARIANCE OF STUDENT CHARACTERISTICS BY INSTITUTION

	Terminated Mean	Continued Mean	F	df
<b>TOTAL</b>				
English ACT Standard Score	20.4	21.4	5.46	1,416
English ACT Percentile	53.0	59.1	4.43	1,416
Mathematics ACT Standard Score	16.8	18.6	9.43	1,416
Mathematics ACT Percentile	36.1	43.7	8.03	1,416
Social Studies ACT Standard Score	18.2	19.6	5.78	1,416
Social Studies ACT Percentile	38.7	45.1	5.33	1,416
Composite ACT Standard Score	18.5	19.8	9.51	1,416
Composite ACT Percentile	38.5	46.0	8.28	1,416
Semesters of HS Foreign Languages	3.89	4.38	4.88	1,243
Semesters of HS Mathematics	4.59	5.10	8.88	1,414
Semesters of HS Home Economics	4.57	3.97	3.86	1,319
<b>UNIVERSITIES</b>				
Initial College GPA	2.74	2.91	4.72	1,190
Overall GPA at the Time the Business Certifi- cate Was Received	2.66	2.82	6.55	1,190
<b>OSU</b>				
HSGPA in Social Studies	3.27	3.49	5.23	1,141
Initial College GPA	2.78	3.03	8.52	1,141
Overall GPA at the Time the Business Certifi- cate Was Received	2.63	2.92	15.42	1,141
<b>GSC</b>				
English ACT Standard Score	19.9	23.3	7.44	1,58
English ACT Percentile	49.0	71.6	5.72	1,58
Social Studies ACT Percentile	33.1	52.5	4.39	1,58
Composite ACT Standard Score	17.6	21.0	5.32	1,58
Composite ACT Percentile	33.4	52.1	4.38	1,58
Miles Traveled From High School to College	34.6	58.8	4.13	1,58

TABLE LVII (Continued)

	Terminated Mean	Continued Mean	F	df
ECSC				
HSGPA in Home Economics	3.51	2.77	6.20	1,12
SSC				
Natural Sciences ACT Standard Score	17.4	14.7	5.57	1,89
Natural Sciences ACT Percentile	32.8	20.9	5.43	1,89
Composite ACT Standard Score	17.3	15.3	6.55	1,89
Semesters of HS Mathematics	4.08	4.94	4.85	1,89
GPA for Total High School Academic Credits	3.39	3.13	5.68	1,89

APPENDIX L

TABLE LVIII  
ANALYSIS OF VARIANCE OF STUDENT CHARACTERISTICS BY YEAR

	Terminated Mean	Continued Mean	F	df
1963				
Age in Months	234.5	244.2	15.72	1,65
HSGPA in English	3.21	3.55	5.29	1,65
HSGPA in Mathematics	2.89	3.28	4.58	1,65
Semesters of HS Business	6.29	8.63	10.00	1,65
1965				
English ACT Standard Score	20.3	22.7	5.50	1,80
English ACT Percentile	52.8	67.7	4.74	1,80
Mathematics ACT Standard Score	16.0	19.3	6.39	1,80
Mathematics ACT Percentile	32.5	47.0	5.62	1,80
Composite ACT Standard Score	17.8	20.5	7.98	1,80
Composite ACT Percentile	34.3	50.6	8.27	1,80
Semesters of HS Mathematics	4.30	5.47	12.87	1,79
Semesters of HS Home Economics	4.93	3.09	5.97	1,66
1966				
English ACT Percentile	53.9	66.5	4.81	1,98
HSGPA of Biological and Physical Sciences	3.07	3.36	4.24	1,98
1967				
Semesters of HS Mathematics	4.39	5.04	4.40	1,107



APPENDIX M

TABLE LIX

EDWARDS' TEST FOR HOMOGENEITY OF VARIANCE FOR THOSE WHO CONTINUED  
AND FOR THOSE WHO TERMINATED

Student Characteristics	df	F
TOTAL		
Age in Months	313,103	2.86
HSGPA in Home Economics	250,69	1.47
Overall GPA at the Time the Business Certificate Was Received	313,103	1.44
UNIVERSITIES		
OU		
Semesters of HS Home Economics	91,49	1.61
OSU		
HSGPA in Mathematics	16,15	3.18
COLLEGES		
Semesters of HS Social Studies	140,27	2.09
ECSC		
Natural Sciences ACT Standard Score	13,3	9.73
Natural Sciences ACT Percentile	13,3	15.58
SSC		
English ACT Percentile	74,15	3.03
Social Studies ACT Percentile	74,15	2.69
Composite ACT Percentile	74,15	3.36
Semesters of HS Social Studies	74,15	2.35
YEAR		
1963		
HSGPA in Social Studies	47,18	2.27
HSGPA in Home Economics	40,13	5.10
1967		
Semesters of HS Biological and Physical Sciences	80,26	2.38

APPENDIX N

TABLE LX

## CHI-SQUARE ANALYSIS OF STUDENT RESPONSES BY INSTITUTIONS AND YEARS

	Chi-Square	df
TOTAL		
Father's Education	7.44	1
Mother's Education	11.52	1
Occupation of the Father		
Professional and Executive Employment	3.92	1
Owning, Renting, or Managing a Farm or Ranch	6.14	1
Marriage	38.86	1
Marital Status	9.54	1
Parental Influence		
Parental Influence to Further Collegiate Education	47.13	1
Parental Influence to Work	5.31	1
Rank of Reasons for Students Leaving College		
Total Rankings 1, 2, and 3		
Lack of Interest in College	7.03	1
Ranking 1		
Marriage	5.39	1
Ranking 2		
Lack of Interest in College	5.91	1
Continue Education	23.48	1
Borrow and Repay for Further Education	33.41	2
Attend Different Institutions		
Continue Education at State Four-Year College	5.18	1
Continue Education at a University	15.70	1
College Student Would Prefer to Attend	4.74	1
Interest in Office Occupation	13.24	1
Initial Employment		
Student	51.92	1
Stenographer	3.90	1
Present Employment		
Housewife	5.54	1
Student	59.03	1
Secretary	7.39	1
General Office Clerk	10.25	1
Student Plans for Coming Year		
To Continue Working	19.24	1
To be a Housewife	6.90	1
To Teach	75.83	1
Student Future Plans		
Office Work	20.58	1
Housewife	19.66	1
Teacher	62.78	1

TABLE LX (Continued)

	Chi-Square	df
Level of Education	321.87	1
Educational Institutions Attended After Receiving Certificate	23.00	1
UNIVERSITIES		
Mother's Education	6.10	1
Marriage	26.98	1
Parental Influence		
Parental Influence to Further Collegiate Education	36.71	1
Continue Education	9.97	1
Borrow and Repay for Further Education	10.55	1
Chances of Obtaining Employment	6.47	1
Initial Employment		
Student	15.48	1
Stenographer	5.48	1
Present Employment		
Student	12.70	1
Secretary	6.78	1
Student Plans for Coming Year		
To Teach	18.87	1
Student Future Plans		
Office Work	12.78	1
Housewife	11.76	1
Teacher	26.80	1
Level of Education	171.26	1
Educational Institutions Attended After Receiving Certificate	29.14	1
OSU		
Marriage	18.35	1
Parental Influence		
Parental Influence to Further Collegiate Education	30.23	1
Rank of Reasons for Students Leaving College Ranking 1		
Marriage	11.35	1
Continue Education	7.37	1
Borrow and Repay for Further Education	14.02	1
Chances of Obtaining Employment	6.07	1
Initial Employment		
Student	15.28	1
Stenographer	4.70	1

TABLE LX (Continued)

	Chi-Square	df
Present Employment		
Housewife	5.16	1
Student	9.88	1
Student Plans for Coming Year		
To be a Housewife	7.69	1
To Teach	12.73	1
Student Future Plans		
Housewife	10.98	1
Office Work	9.95	1
Teacher	19.55	1
Level of Education	130.12	1
Educational Institutions Attended After Receiving Certificate	17.36	1
OU		
Mother's Education	12.13	1
Marriage	7.19	1
Parental Influence		
Parental Influence to Further Collegiate Education	5.20	1
Present Employment		
Secretary	6.89	1
Student Plans for Coming Year		
To Continue Working	6.37	1
Student Future Plans		
Teacher	5.76	1
Level of Education	37.65	1
Educational Institutions Attended After Receiving Certificate	*	1
COLLEGES		
Marriage	9.23	1
Continue Education	7.02	1
Borrow and Repay for Further Education	11.14	1
Initial Employment		
Student	30.66	1
Present Employment		
Student	37.70	1
Secretary	4.83	1
Student Plans for Coming Year		
To Continue Working	24.33	1
To Teach	52.97	1

TABLE LX (Continued)

	Chi-Square	df
Student Future Plans		
Housewife	13.75	1
Teacher	38.30	1
Level of Education	88.59	1
Educational Institutions Attended After Receiving Certificate	5.32	1
CSC		
Education of the Older Sister		
No Older Sister	6.55	1
Initial Employment		
Student	6.81	1
Present Employment		
Student	21.94	1
Student Plans for Coming Year		
To Continue Working	8.22	1
To Teach	27.75	1
Student Future Plans		
Housewife	5.17	1
Teacher	6.51	1
Level of Education	27.75	1
ECSC		
Level of Education	*	1
SSC		
Marriage	4.17	1
Borrow and Repay for Further Education	7.40	1
Initial Employment		
Student	14.61	1
Present Employment	11.41	1
Student Plans for Coming Year		
To Continue Working	17.47	1
To Teach	24.33	1
Student Future Plans		
Teacher	26.04	1
Level of Education	40.72	1
Educational Institutions Attended After Receiving Certificate	*	1

TABLE LX (Continued)

	Chi-Square	df
NOC		
Present Employment		
Student	21.58	1
Student Plans for Coming Year		
To Teach	11.36	1
Level of Education	11.36	1
Educational Institutions Attended		
After Receiving Certificate	*	1
1963		
Marriage	6.11	1
Parental Influence		
Parental Influence to Further		
Collegiate Education	15.84	1
Rank of Reasons for Students Leaving		
College		
Ranking 2		
Lack of Interest in College	6.95	1
Continue Education	4.77	1
Initial Employment		
Student	7.32	1
Student Plans for Coming Year		
To be a Housewife	6.55	1
To Teach	19.19	1
Student Future Plans		
Housewife	5.04	1
Teacher	19.59	1
Level of Education	62.17	1
Educational Institutions Attended		
After Receiving Certificate	*	1
1964		
Occupation of Father		
Executive Employment	4.05	1
Parental Influence		
Parental Influence to Further		
Collegiate Education	13.41	1
Continue Education	4.12	1
Borrow and Repay for Further Education	5.62	1
Initial Employment		
Student	6.21	1
Secretary	5.76	1



TABLE LX (Continued)

	Chi-Square	df
Student Plans for Coming Year		
To Teach	6.21	1
Level of Education	48.33	1
1965		
Mother's Education	5.87	1
Attend Different Institution		
Continue Education at University	4.13	1
Interest in Office Occupation	6.61	1
Student Plans for Coming Year		
To Teach	15.55	1
Student Future Plans		
Teacher	17.59	1
Level of Education	70.13	1
1966		
Marriage	14.10	1
Marital Status	4.88	1
Parental Influence		
Parental Influence to Further		
Collegiate Education	9.83	1
Continue Education	4.06	1
Attend Different Institution		
Continue Education at a University	6.88	1
Continue Education at a State		
Four-Year College	5.41	1
Initial Employment		
Student	4.98	1
General Office Clerk	3.94	1
Present Employment		
Student	13.54	1
Student Plans for Coming Year		
To Teach	13.54	1
Student Future Plans		
Office Work	8.17	1
Teacher	14.27	1
Level of Education	85.25	1
Colleges Attended After Receiving		
Certificate	6.97	1

TABLE LX (Continued)

	Chi-Square	df
1967		
Occupation of the Father		
Deceased	6.38	1
Marriage	10.73	1
Parental Influence		
Parental Influence to Further Collegiate Education	4.22	1
Rank of Reasons for Students Leaving College		
Ranking 1		
Lack of Interest in College	4.15	1
Borrow and Repay for Further Education	9.51	1
Need for Additional Training After Receiving Certificate	4.86	2
State of Present Employment (In State -- Out of State)	5.96	1
Initial Employment		
Student	18.30	1
Present Employment		
Student	44.33	1
Student Plans for Coming Year		
To Teach	5.68	1
To Continue Working	34.03	1
Student Future Plans		
Office Work	6.33	1
Housewife	7.02	1
Teacher	5.16	1
Level of Education	40.82	1
Educational Institution Attended After Receiving Certificate	5.27	1

\* Significant at the .05 level using the Fisher Exact Probability Method

VITA

Harry Edward Nowka

Candidate for the Degree of  
Doctor of Education

Thesis: THE RELATIONSHIP BETWEEN STUDENT CHARACTERISTICS AND  
COLLEGIATE TERMINATION OF VOCATIONAL BUSINESS CERTIFICATE  
HOLDERS

Major Field: Business Education

Biographical:

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