PERSONAL AND SOCIAL CHARACTERISTICS OF STUDENTS AFFECTING THEIR DROP-OUT FROM TECHNICAL PROGRAMS

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CHAPTER I

THE PROBLEM

Introduction

World War II, the post-war prosperity, the successful launching of the satellite Sputnik by the Soviet Union and the recent race to the moon have all contributed to a rapid and ever-increasing demand for more scientists, engineers and technicians. American education has been hard pressed to meet this manpower challenge. Presently, and in the near future, the demand for engineers and technicians appears more pressing than ever before; approximately 72,000 new engineers will be needed each year between now and 1972.[1] In addition, 67,000 to 200,000 technicians will be needed in each of those years.[2]

One of the outgrowths of this great manpower demand has been the development of two year post-high school technical programs. These technical programs are designed to serve individuals who wish to become gainfully employed as technicians, in less time than a traditional four-year baccalaureate program; and to provide a supply of technically educated workers to a demanding economy.

There appears to be two essential elements to the solution of the technician manpower shortage problem. A great number of qualified youth must be attracted into the fields of technology, and steps must be taken to increase the retention of enrollees in present and future classes of technician trainees.[3]

Statement of the Problem

The problem with which this study is concerned is determining what characteristics of students affect their drop-out from technical programs.

Purpose of the Study

The purpose of this study is to compare selected personal and social characteristics of students who dropped out of technical programs in four Oklahoma schools between the Fall of 1967 and the Fall of 1968 with students who re-enrolled in these programs in the Fall of 1968 to determine the similarities or differences in the characteristics of the two groups.

Need for the Study

High school guidance counselors have expressed a need for more information concerning post-high school occupational education students. According to Phillips,

> High school counselors have experienced a great deal of success in assisting the college bound student, however these counselors have not experienced an equal degree of success in working

> with students desiring a post-high school occupational vocation because of the limited availability of information.[4]

Counselors and advisors have very little information or scientific research to assist them in identifying the potentially successful technical student. Many times they will steer students into technical education programs because these students have shown a lack of success in general education.

Harris states

> Many times, a lack of success in general education is the only criterion used for selection of students and as a corollary even a limited success in general education is interpreted as indicating that a student should save himself for better things than occupational training. This type of counseling must be the product of a complete misunderstanding of the nature of technical training, the technicians' skills and knowledges, the technicians' economic and social standing and interest of the student.[5]

A most important criterion in determining the success of a student in an education program is whether the student remains in the program or drops out of it. Presently there is a thirty-three percent drop-out rate in the State of Oklahoma for first-year technical students.[6]

This relatively high drop-out rate, a lack of information on the part of counselors, students and parents about the characteristics of successful and unsuccessful technical students and a general lack of scientific research on the subject appeared to justify the need for this study.

Objectives of the Study

1) To determine similarities in the characteristics of the drop-out group to the group that enrolled in the second year.

2) To determine differences in the characteristics of the drop-out group to the group that enrolled in the second year.

3) To provide a base for further research using differences in the two groups found in this study as predictors for success.

Null Hypotheses

There will be no significant differences in the characteristics of those who dropped out (Group I) and those who remained (Group II) in two-year post-high school technical programs offered in four selected Oklahoma institutions.

Limitations of the Study

Limitations as to Student Population

This study was limited to students enrolled for the first time in technical programs offered in four Oklahoma schools in the Fall of 1967.

Phillips, in his study, included 724 of those technical students. However, students who transferred to a different curricula other than technical within the same

school were eliminated from this study. The group of students eliminated from this study included sixty-two students. Subtracting the sixty-two students eliminated from the original 724 students included in Phillips study, we have 662 students included in this study.[7]

Limitations as to Programs

As selected by Dr. Donald S. Phillips[8], the technical programs were:

a) All programs offered by the two technical institutes operated by a state university;

b) Programs at a state-supported junior college which received financial reimbursement from the Technical Education Division of the State Department of Vocational Education;

c) Programs at a Vocational Technical School which received financial reimbursement from the Technical Education Division of the State Department of Vocational-Technical Education, and;

d) Only the following twelve technical programs were included:

1. Aeronautical Technology
2. Chemical Technology
3. Construction Technology
4. Data Processing Technology
5. Drafting and Design Technology
6. Electrical Technology
7. Electronics Technology

8. Fire Protection Technology
9. Mechanical Technology
10. Metals Technology
11. Petroleum Technology
12. Radiation Technology

Limitations as to Schools

Only the following four schools were considered:

1) Oklahoma State University Technical Institute, Stillwater, Oklahoma.

2) Oklahoma State University Technical Institute, 1900 N. W. Tenth Street, Oklahoma City, Oklahoma.

3) Northeastern Oklahoma Agricultural and Mechanical College, Miami, Oklahoma.

4) Oklahoma State University School of Technical Training, Okmulgee, Oklahoma.

Limitations as to Student Characteristics

Only non-intellective factors were investigated in this study.

Assumption

For the purpose of this study the following assumption is made:

That students entering technical programs in the fall of 1967 would be similar to technical students in future years. This assumption is supported by Astin[9] who cites

several studies which indicate that the characteristics of students at an institution remain stable over a period of years.

Definition of Terms

Technical Programs are designed to prepare persons for a cluster of job opportunities in a specialized field of technology. Through a planned sequence of classroom and laboratory instruction at the post-secondary level, usually two years in duration, technical programs prepare individuals for the work area between the skilled craftsman and the professional engineer or scientist.

Technical Institute, according to Phillips, is

> ...a post-high school institution offering training for occupations in which emphasis is placed on the application of the functional aspects of mathematics and science, or an officially designated, separately organized technical institute division of a four-year institution. The primary purpose of the technical institute is training for an objective other than a baccalaureate degree.[10]

Junior College, according to Phillips, is

> ...an institution of higher education which offers usually the first two years of college instruction, frequently which grants an associate degree, and does not grant a bachelors degree. It is either independently organized institution (public or non-public) or an institution which is a part of a public school system or an independently organized system of junior colleges. Offerings include college transfer courses and programs; and/or technical or semiprofessional occupational programs or general education programs at the post-secondary instructional level; and may also include continuing education for adults as well as other community services.[11]

Vocational Technical School, according to Phillips, is

> ...a post-high school institution, area schools and high schools, which offers training programs at both the trade and/or technical level. This type of school has preparation for employment as its primary objective. While this type of institution serves post-high school students it does not give college credit or aware and associate degree.[12]

Drop-Out Group: Those students who discontinued their technical training during or after their first year and failed to re-enroll in their second year were considered drop-outs.

The group identified as Drop-outs includes all students who discontinued their technical training for any reason, whether the reason was finances, low grades, illness, change of school, etc. They were not divided into separate groups for their reasons.

Retention Group: Those students who remained in their technical training throughout their first year and re-enrolled in their second year were considered retention. According to A. J. Miller:

> Past Technical Institute records at Oklahoma State University indicate that the majority of students who begin their second year of training complete their programs of study.[13]

Students who transferred to a different technical program within the same school were considered within the Retention Group.

FOOTNOTES

[1]"Engineering Manpower--A Statement of Position," Engineering Manpower Commission of Engineers Joint Counsel, (New York, 1963), p. 23.

[2]"Education for a Changing World of Work," Summary Report of the Panel of Consultants on Vocational Education, Office of Education OE-80020, (Washington, D.C., 1962).

[3]A. J. Miller, "A Study of Engineering and Technical Institute Freshman Enrollees and Dropouts in Terms of Selected Intellective and Non-Intellective Factors," (unpub. Ed. D. Dissertation, Oklahoma State University, 1966).

[4]Donald S. Phillips, "Personal and Social Background Characteristics of Entering Technician Education Students at Four Post-High School Institutions," (unpub. Ed. D. dissertation, Oklahoma State University, 1968).

[5]James L. Harris, "An Analysis of Oklahoma City High School Technical Graduates as Related to Subsequent Higher Educational Patterns," (unpub. Master's thesis, Oklahoma State University, 1968), p. 4.

[6]Based on unpublished Occupational Training Information System Data.

[7]Phillips, p. 51.

[8]Ibid.

[9]A. W. Astin, Who Goes Where to College? (Chicago: Science Research Associates, Inc., 1965), p. 51.

[10]Phillips, p. 7.

[11]Ibid.

[12]Ibid.

[13]Miller.

CHAPTER II

REVIEW OF THE LITERATURE

The Need for Research

It has been shown in the need for study that factual research is needed for understanding the characteristics of technical students and Technical Education; however, research studies of this nature have been limited. In 1960 Cooper stated:

> The literature of technical and semi-professional education tends toward generalization and observation rather than empirical data. The limited number of studies available dealt primarily with (a) the need for such training, (b) the types of institutions offering it, and (c) analysis of specific programs![1]

In 1964 the situation was found to be similar by Roney:

> Reports of controlled experimental research appeared to be limited, and when such reports were available, they were short, highly specific and localized projects.[2] (stated relative to Technical Education)

In 1968 Phillips stated:

> One of the most consistent findings from literature reviews has been that research in this field has been limited.[3] (stated relative to technical students)

Again, in Phillips' dissertation, referring to Graney[4], states:

> In spite of the growing interest in Technician Education in recent years there are surprisingly few factual data relative to the kinds of individuals served by Technician Education. While factual information is scarce, speculation abounds; however, much of the speculation deals more with what technician students ought to be than with what they are.[5]

Technical Student Characteristics

This study is based on the students, programs and schools selected by Phillips in his study of 1968.[6] Phillips identified differences and similarities among entering technical students at four selected post-high school institutions in Oklahoma. His findings indicate that entering technical students at different types of institutions differ on a number of personal and social attributes.

Entering technical students at the Vocational Technical School (Okmulgee) came from significantly lower socio-economic backgrounds than the entering technical students at the other three institutions.

In terms of scholastic aptitude tests, the students at the Junior College (Miami) and the Vocational Technical School (Okmulgee) were very similar. The entering technical students at the two technical institutes (Oklahoma City and Stillwater) were similar and their test scores were significantly higher than the scores of the students in the other two groups. Phillips concluded that:

> 1. Technician education students do not make choices among the available technician education programs in the state. Twelve post-high school institutions in the state had technician education programs, yet only a small

percentage of students included in this study indicated that they knew of other schools in the state which offered a technical program the same as the one in which they were enrolled.

2. Technician education students tend to express unrealistic educational expectations. All students included in this study were enrolled in programs which are designed with employment objectives rather than college transfer objections. Yet, a majority of the junior college and technical institute students and approximately one-fifth of the vocational technical school students indicated that they expected to complete a baccalaureate degree. At the time of this study, 'four-year technology' programs were not available in the state.

3. In general, the state's high school guidance systems do not effectively serve prospective technician education students. A majority of the students included in this study indicated that while in high school they had considered attending a technical program. Approximately 45 per cent indicated that the decision to attend the post-high school, yet less than one-third of the students had visited with a high school counselor about attending the program. Approximately one-fourth of the students had attended high schools which did not have guidance counselors.

4. Reading skills of technician education students tend to be lower than norms for grade 13 students. The mean scores for all groups on the Nelson-Denny Reading Test were lower than the mean for grade 13 students. In addition, significant differences were found between the groups when reading test scores were analyzed.[7]

Technical Student Drop-Outs

Miller, in his study of 1966, looked at both Engineering and Technical Institute freshmen enrollees and Drop-outs. His findings indicated a lack of a significant difference (.05 level) between drop-outs and non-dropouts on social class background and ability to visualize spatial

relations. Also, his findings indicated that the non-drop-out group had significantly higher scholastic aptitudes (.01 level) and a significantly higher motivation to achieve (.01 level).[8]

Miller's findings indicated that the drop-out group had a significantly higher (.05 level) need for affiliation, nurturance, and general social needs than the non-dropouts.[9]

Maslow describes those who drop-out to be more deficiency motivated; that is, they must have other people available for their ego needs. Those who do not drop-out possess personality characteristics similar to those of the self-actualized, these people fully use their talents, capacities and potentialities.[10]

The Sex Characteristic

J. Summerskill and C. D. Darling studied sex related to withdrawing in 1955 at Cornell University.[11] Beginning with the entire freshman class of 1948, including 1,818 students, they found that by 1952, 727 of these students had withdrawn. Of the original 1,818, seventy-eight per cent were men and twenty-two per cent were women. When the males and females were compared, it was found that among scholastic failures the women comprised only eleven per cent of the group that failed. However, women comprised thirty-eight per cent of the non-academic withdrawals which is proportionately higher than the men.

Several factors might contribute to this high non-academic withdrawal among women. One is health; women tend to be ill much more than men, as shown by the student health clinic records on the disease Mononucleosis, a common campus malady.

Marriage is frequently mentioned to explain female withdrawal but studies on female attrition have not detected a substantial number of women leaving college to be married.

This study at Cornell implied a sex difference in the motivation to complete college between men and women with male students being vocationally oriented and women withdrawing from college because other avenues of personal security gain in priority. One cannot assume that female withdrawal represents academic failure or poor personal adjustment, further research is needed.

FOOTNOTES

[1]Russell M. Cooper, et al, "The Educational Program," Review of Educational Research, XXX, No. 4, (October, 1960), pp. 334, 349.

[2]Maurice W. Roney, "An Analysis of the Interrelationship of Mathematics, Science, and Technical Subject Matter in Selected Technical Institute Curricula," (unpub. Ed. D. dissertation, University of Maryland, 1964), p. 14.

[3]Phillips, p. 20.

[4]Maurice Graney, The Technical Institute, (New York: The Center for Applied Research in Education, Inc., 1964), p. 88.

[5]Phillips, p. 21.

[6]Ibid., p. 40.

[7]Ibid., p. 105-106.

[8]Miller, p. 77.

[9]Ibid., p. 79.

[10]A. H. Maslow, Motivation and Personality, (New York: Harper and Row, 1954).

[11]J. Summerskill and C. D. Darling, "Sex Differences in Adjustment to College," Journal of Educational Psychology, XLVI (1955), 355-361.

CHAPTER III

METHODOLOGY

As stated in Chapter I, the purpose of this study is to compare selected personal and social characteristics of students who dropped out of technical programs in four Oklahoma schools between the Fall of 1967 and the Fall of 1968 with students who re-enrolled in these programs in the Fall of 1968 to determine the similarities or differences in the characteristics of the two groups.

In light of this purpose and before any comparisons could be made, the retention and drop-out groups had to be determined. It was decided early in this study that the best method would be to determine what students were retention, then the students who were not retention would be drop-outs. This was possible because Phillips had obtained the names of all 724 students included in his study.[1] With this list of names, it was possible to use the Otis Supply Form II Questionnaire[2] (See Appendix B) from the fall of 1968 to check retention names. Then later David Anderson of the Research Coordinating Unit at Oklahoma State University, who is studying the same population, obtained the transcripts of the students in this study from the schools at Miami, Oklahoma City and Stillwater. Then still later,

Dr. Paul V. Braden obtained a list of students' names from the 1968 fall enrollment at the school in Okmulgee, including majors. Close observation of all these students' names revealed that 368 students were determined to be retention; sixty-two students were eliminated because they transferred to curricula other than technical within the same school (see Limitations of the Study, Chapter I); the remainder was an accurate 294 total of Drop-outs.

Discussing again the sixty-two students eliminated, Donald W. Brown, Director of the Technical Institute of Oklahoma State University on the Stillwater campus, revealed to me that about one-half or more of a technical student's curricula is transferable to another major within the university. In light of this revelation it was felt that students who transferred to other curricula within the same school should not be considered drop-outs, although they did leave the technical program in which they were originally enrolled.

Phillips, in his study, had a set of punched cards made for each of the 724 students related to Student-Answers on Student Information, Form I Questionnaire (See Appendix A). When the Drop-out and Retention groups of students were finally determined, these punched cards were hand-picked and sorted into the two groups and then reproduced with a '1' punched in Column 80 of the Drop-out Group and a '2' punched in Column 80 of the Retention Group.[3] This technique is stated in the Null Hypothesis of Chapter I and was done for

the Chi-Square Program at the Computer Center here on the Oklahoma State University Campus at Stillwater, Oklahoma.

A chi-square statistical analysis was deemed appropriate because inferential statistics could be used in light of the assumption in Chapter I.

Martin, in her study, explains chi-square as,

> Chi square is an index of dispersion. It is used to test the hypothesis that two or more subsamples differ in respect to observed and expected values; that is that the percentages in a two-dimensional table differ. The sampling distribution of chi square depends upon the degrees of freedom in the table. The null hypothesis is a statement of no relationship between variables. There is said to be a significant relationship between the variables if the probability of a larger value of chi square is found to be .05 or less. If, therefore, one says that chi square is significant at the .05 level, this means that there is one chance in twenty that the variables under consideration are not related; their correlation, therefore, is not due simply to chance. If chi square is significant at the .01 level, there is one chance in 100 that the variables under consideration are not related. If the probability of a larger value of chi square is greater than .05, there is said to be no significant relationship between the variables.[4]

The .05 level is used in this study as a base for determining significant differences between the Drop-out and Retention group related to student answers to individual questions on the Student Information Form I Questionnaire of Phillips (See Appendix A).

Several individual questions on the Questionnaire (See Appendix A) had to be eliminated from this study because they either could not be made to fit the chi-square computer program or they had already been answered elsewhere or they

had too many parts for a valid chi square analysis. These eliminated questions were Nos. 3, 7, 8, 9A, 10, 14, 16, 21, 25, 32, 34, and 47.

FOOTNOTES

[1]Phillips, p. 51.

[2]Paul V. Braden, Manpower Requirements and Occupational Programs in Oklahoma, A Research Report published by the Occupational Training Information System, Stillwater, Okla., Jan. 31, 1969, pp. 185-186.

[3]Phillips, p. 98.

[4]Donna Kay Martin, "An Analysis of Selected Factors in the Utilization of Female Registered Nurses in Oklahoma," (unpub. Master's thesis, Oklahoma State University, 1969), p. 50.

CHAPTER IV

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Findings

In order to find personal and social characteristics of technical students that affect their drop-out from technical programs, it was decided to compare selected characteristics of the drop-out group to the retention group. The findings of this comparison are described in the following sections.

The number of drop-outs, retention students, and drop-out rates for all four schools combined and each school individually are shown in Table 1.

When the data on the two groups was run on the chi-square program at the computer center and analyzed, an interesting pattern of significant differences emerged, as shown in Table 2. No individual question on the questionnaire revealed a significant chi square level between the drop-out and retention group in all of the schools although individual schools did show significant differences in some cases. (See Table 2 and Appendix A)

No significant differences at the .05 level or lower were found on thirty-two questions at any of the individual

TABLE 1

DROP-OUTS, RETENTION STUDENTS AND DROP-OUT RATES

Schools	Number of Drop-outs			Number of Retention Students			Drop-out Rates*
		M	F		M	F	
All Four Schools	294	259	35	368	344	24	44.4
At Miami	82	57	25	111	94	17	42.5
At Okmulgee	115	110	5	119	115	4	49.1
At Oklahoma City	39	36	3	59	56	3	39.8
At Stillwater	58	56	2	79	79	0	42.3

M denotes Male.
F denotes Female.

* In tenths of a percent based on the number of drop-outs divided by the total sum of drop-outs and retention students in each school.

TABLE 2

SIGNIFICANT DIFFERENCES IN
CHI SQUARE LEVELS

Question No.	All 4 Schools	Sch. 1 Miami	Sch. 2 Okmulgee	Sch. 3 Okla. City	Sch. 4 Still-water
1. Sex	.025	.025			
2. Marital Status					
4. Military Status		.025			
5. Lived on a farm.	.025		.025		
6. Attended public high school.					
9B. Influence of hobby.					.05
11. Amount of education					
12. High school rank					
13. Size of high school	.025				
15. Father's education		.005			
17. Mother's education					
18. Favorite subject					
19. Subject liked least			.05		
20. Best grades					
22. Highest education expected		.05			
23. Field of study					

TABLE 2--Continued

Question No.	All 4 Schools	Sch. 1 Miami	Sch. 2 Okmulgee	Sch. 3 Okla. City	Sch. 4 Still-water
24. Knowledge of similar training					
26. Enrolled in a Vocational Course				.025	
27. Which Vocational Program					
28. Year in a Vocational Program					
29. Size of high school town					
30. Distance from high school town					
31. Distance from home to school		.05			
33. Expected cost of training					
35. Financial difficulty					
36. Knowledge of Program					
37. Visit with a Counselor					
38. Availability of a Counselor					
39. Knowledge of Program from Counselor					
40. Consideration of Attending Program in High Sch.					
41. Decision to attend program in high school					

TABLE 2--Continued

Question No.	All 4 Schools	Sch. 1 Miami	Sch. 2 Okmulgee	Sch. 3 Okla. City	Sch. 4 Still-water
42. Visit from School Representative					
43. Visit of sch. and facilities					
44. Who encouraged you to attend this school			.05		
45. Decision to enter occupational training	.025				
46. Job before entering this program					
48. Interest in a Job					
49. Money earned previously					
50. Relationship of Job to this program					
51. High School Job					.025
52. Acquiring a Job with training					
53. Acquiring a related job without training					
54. Interest in the occupation being trained for					
55. Confidence of completing program	.05		.025		
56. Salary Expected		.025			

TABLE 2--Continued

Question No.	All 4 Schools	Sch. 1 Miami	Sch. 2 Okmulgee	Sch. 3 Okla. City	Sch.4 Stillwater
57. Salary Expected after 5 yrs.					
58. Plans After Completing Program				.025	
59A. Location of work preferred					
59B. Best opportunity for employment					

Blank Cell denotes Not Significant

.05 denotes .05 level of significance

.025 denotes .025 level of significance

.005 denotes .005 level of significance

schools or all four schools combined. These questions where the null hypothesis was fully accepted included such student characteristics as marital status, type of high school attended, previous education, high school rank, mother's occupation, favorite subject, best grades in high school, expectation of completing a bachelor's degree, knowledge of similar vocational-technical programs in Oklahoma, previous vocational education, size of high school town, distance from high school attended to this school, costs of current program, knowledge of current program, visiting with a counselor, knowledge of current technical program gained from a high school counselor, availability of a high school counselor, serious consideration of current program while in high school, visitation of current school, interest in a high school job, relationship of high school job to the current technical program, feelings about acquiring a job related to the current program, and location of work preferred (in Oklahoma or elsewhere) upon completion of the current technical program (See Table 2).

The significant differences between the drop-out and retention groups were on:

Question 1: (Sex: Male or Female) .025 level at all four schools and Okmulgee. There were only fifty-nine women out of the 662 technical students in this study. Of these fifty-nine women, thirty-five were drop-outs and twenty-four were retention students, therefore, indicating that the women in this study drop-out at a higher rate than the men. (See Table 1)

Question 4: (Are You a Veteran?) .025 level at Miami. Percentages on this question reveal that 9.8 percent of the drop-out group were veterans, while only 1.8 percent of the retention group were veterans. This indicates that the veterans at Miami dropped out at a higher rate than the non-veterans.

Question 5: (Did you live on a farm while attending high school?) .025 level at all four schools and Okmulgee. Percentages reveal that 20.8 percent of drop-outs were rural while 28.9 percent of retention students were rural at all four schools and 22.6 percent of the drop-outs were rural while 38.1 percent of retention students were rural at Okmulgee. This indicates that rural students remain in their technical programs at higher rates than the urban students do.

Question 9B: (Influence of a Hobby) .05 level at Stillwater. Percentages reveal that 11.0 percent influence on drop-out group and 24.3 percent influence on retention group.

Question 13: (Size of highschool graduating class) .025 level at all four schools. The largest percentage (45.5%) of drop-outs came from high schools with fifty to one hundred graduates, and also the largest percentage (35.9%) of retention students came from these same size high schools.

Question 15: (Education of Father) .005 level at Miami. Students with fathers of higher education tended to remain in their technical programs.

Question 19: (High school subject liked least) .05 level at Okmulgee. Both drop-out (42.9%) and retention students (47.4%) liked English least.

Question 22: (Highest Education Expected) .05 level at Miami. 33.3 percent of the drop-out group indicated bachelors degree while 53.2 percent of the retention indicated bachelors degree. This indicates that at Miami those students who intended to pursue a bachelors degree remained in their technical program at a higher rate than the drop-out group.

Question 26: (Vocational course in high school) .025 level at Oklahoma City. 33.3 percent of the drop-out group had a vocational course in high school while 35.7 percent of the retention group had a vocational course in high school.

Question 31: (Closeness of home to this school) .05 level at Oklahoma City. The drop-out group lived less than five miles away (89.4%) while the retention group lived mostly one to five miles away (50.8%).

Question 44: (Who encouraged you to attend this school) .05 level at Okmulgee. 38.3 percent of the drop-out group was encouraged by nobody, while 43.1 percent of the retention group was encouraged by nobody. This indicates that the students who were encouraged by nobody remained in their technical program at a higher rate than the drop-outs.

Question 45: (When decision to enter training for an occupation was made) .025 level at all four schools. 33.6 percent of the drop-out group decided at least one year

before entering their technical program while 43.1 percent of the retention group decided at least one year before entering their technical program.

Question 51: (Part-time or full-time job in high school) .025 level at Stillwater. 55.2 percent of the drop-out group answered yes, while 74.7 percent of the retention group answered yes. This indicates that the retention group was employed in a high school job at a higher rate than the drop-outs were.

Question 55: (Confidence in completing this program) .05 level at all four schools and .025 level at Okmulgee. The retention group was much more confident they could complete their technical program than the drop-out group as shown by the percentages on the five parts of this question.

Question 56: (Salary at end of training) .025 level at Miami. The answers of the drop-out group fell at the first and last parts of this question for the most part while the retention groups answers fell in the middle range of salaries. This indicates a more realistic view of salaries by the retention group.

Question 57: (Salary at end of five years) .025 level at all four schools. 36.9 percent of drop-outs answered over eight hundred dollars per month while only 25.3 percent of the retention group answered over eight hundred dollars per month. Again, this indicates a more realistic view of salaries by the retention group.

Question 58: (Future after completing the program) .025 level at Oklahoma City. 51.3 percent of drop-out group answered, seek employment in a technical occupation for which I am trained, while 58.6 percent answered, seek employment in a technical occupation for which I am trained. This indicates that the retention group will seek employment in their technical speciality at a higher rate than the drop-outs will.

Conclusions

1. The questions arises, as to why students are not encouraged to enroll in technical programs? The findings of this study indicated very little encouragement had been given to either the drop-out or retention groups by parents, relatives, friends, employers, teachers, or counselors.

2. With a statewide drop-out average of thirty-three percent for technical students and drop-out rates for the four schools in this study ranging from 39.8% to 49.1%, the findings of this study do not indicate any causal factors for these drop-out rates.

3. The findings of this study indicate that the drop-out group appear more urban, less realistic about salaries and their future and less confident they can complete their technical program while the retention group appears more rural, more realistic about salaries and their future and more confident they can complete their technical programs.

4. Question No. 55 of the Questionnaire (See Appendix A) asks, How confident are you that you can complete the program in which you are enrolled? The answers showed that the retention group was much more confident that they could complete their technical program. It appears that this question should be asked of all entering technical students.

Recommendations

1. It is recommended that high school counselors in Oklahoma channel students who could benefit most from technical programs into these programs, using this study, Phillips' study and others as a basis for decisions. Presently, such actions are not being taken by high school counselors as revealed in the need for the study, Chapter I, and in the Findings of this chapter. This denial of action by high school counselors may not only hinder the industrial development of Oklahoma but also channels many students into baccaulaureate and other advanced non-occupational education programs for which the students are not suited. Although there are other factors influencing Oklahoma industrial development the supply of trained manpower is vitally important.

2. It is recommended that studies be undertaken by the four schools included in this study to ascertain the factors that cause their students to drop-out.

3. It is recommended that the significant differences found in this study be researched further for the possibility

of their use as valid predictors for success of students entering technical programs.

4. It is recommended that a follow-up study be made of the same population of students in this study to determine their mobility patterns, both in Oklahoma and out-of-state, after their graduation and also to discover whether or not they are working in the technical specialty for which they were trained.

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APPENDIX A

DR. DONALD S. PHILLIPS' QUESTIONNAIRE

STUDENT INFORMATION FORM I

Directions: Read each question or statement carefully. Select the answer which is true or most nearly true for you, and indicate this answer by placing an (X) in the appropriate blank. If the question asks you to write your answer, do so in the blank provided. Be sure to answer all questions. Do not hurry. If you have a question about a particular item, feel free to consult with the person in charge. Please answer each question carefully and honestly. Your answers will be treated confidentially.

(Please print)

Name _____
Last First Middle

Date of Birth _____
Month Day Year

School Address _____

_____

_____

Permanent address _____

_____

_____

Name of high school last attended _____

_____

Location of high school last attended _____
City

_____
County State

1. Sex: 1._____ Male 2._____Female

2. Marital Status: 1._____Married 2._____Single

3. How many persons other than yourself are dependent on you for their support?_____

4. Are you a veteran? 1._____ Yes 2._____No

5. Did you live on a farm while attending high school?

1._____Yes 2._____No

6. Was the high school you last attended a public school?

1._____Yes 2._____No

7. What year did you leave or finish high school? 19_____

8. How old are you now? _____

9. What is your hobby? A._____
Name hobby

B. Did this hobby influence your choice of training programs? 1._____Yes 2._____No

10. What is the name of the training program in which you are enrolled?

1._____Aeronautical Technology
2._____Chemical Technology
3._____Construction Technology
4._____Data Processing Technology
5._____Drafting & Design Technology
6._____Electrical Technology
7._____Electronics Technology
8._____Fire Protection Technology
9._____Mechanical Technology
10._____Metals Technology
11._____Petroleum Technology
12._____Radiation Technology
13._____Other _____
Name Program

11 (A) How much education did you have before entering this program? (Circle the number which represents the highest grade you have completed.)

7 8 9 10 11 12
High School

1 2 3 4
College

_____
Other (Specify)

11. (B) If you have completed some college work, how many semester hours have you completed? _____

12. Where did you rank in your high school graduating class?
1. _____ I am not a high school graduate.
2. _____ Top quarter of high school graduates.
3. _____ Second quarter of high school graduates.
4. _____ Third quarter of high school graduates.
5. _____ Bottom quarter of high school graduates.
6. _____ I do not know my rank in class.

13. About how many students were in your high school graduating class?
1. _____ I did not graduate from high school.
2. _____ Less than 50.
3. _____ At least 50 but less than 100.
4. _____ At least 100 but less than 300.
5. _____ At least 300 but less than 500.
6. _____ At least 500.

14. What is (or was) your father's occupation?

_____

15. Circle the number which represents the highest school grade completed by your father.

1	2	3	4	5	6	7	8	9
			Grade School			Jr. High		

10	11	12	1	2	3	4
	High School			College		

_____
More

16. What is (or was) your mother's occupation?

_____

17. Circle the number which represents the highest school grade completed by your mother.

1	2	3	4	5	6	7	8	9
			Grade School			Jr. High		

10	11	12	1	2	3	4
	High School			College		

_____
More

18. What was your favorite subject in high school?
1._____Mathematics 4._____Shop
2._____Science 5._____History & Government
3._____English 6._____Other_____
Specify

19. Which high school subject did you like least?
1._____Mathematics 4._____Shop
2._____Science 5._____History & Government
3._____English 6._____Other_____
Specify

20. In which high school subject did you make your best grades?
1._____Mathematics 4._____Shop
2._____Science 5._____History & Government
3._____English 6._____Other_____
Specify

21. Which of the following mathematics courses did you complete in high school?
1._____Arithmetic 4._____Algebra II
2._____Algebra I 5._____Trigonometry
3._____Geometry 6._____Other_____
Specify

22. What is the highest education degree you expect to complete?
1._____Certificate of Completion
2._____Associate degree 4._____Master's degree
3._____Bachelor's degree 5._____Doctor's degree

23 (A) IF YOU EXPECT TO COMPLETE A BACHELOR'S DEGREE, in what field do you plan to study?
1._____4-year technology 4._____Business
2._____Teacher Education 5._____Other
3._____Engineering 6._____I do not plan to complete a bachelor's degree

(B) At which college do you plan to complete this degree?_____

24. Do you know of other Oklahoma schools which offer the same kind of training program in which you are now enrolled? 1._____Yes 2._____No

25. IF YOUR ANSWER TO NUMBER 24 IS YES, list the Oklahoma schools which you know have these programs.

_____

26. Were you enrolled in a vocational course in high school? 1._____Yes 2._____No

27. IF YOUR ANSWER TO NUMBER 26 IS YES, in which vocational program(s) were you enrolled?
1._____Vocational agriculture
2._____Distributive education
3._____Trade & Industrial _____
(Name of Program)

4._____Technical_____
(Name of Program)

5._____Other_____
(Name of Program)

28. How many years were you enrolled in a vocational program?
1._____1 year
2._____2 years
3._____3 years
4._____4 years

29. What is the size of the town in which you last attended high school?
1._____Less than 1,000 people
2._____At least 1,000 but less than 5,000 people
3._____At least 5,000 but less than 10,000 people
4._____At least 10,000 but less than 20,000 people
5._____At least 20,000 but less than 50,000 people
6._____At least 50,000 but less than 100,000 people
7._____At least 100,000 people

30. How far is the town in which you last attended high school from this town?
1._____It is this town.
2._____Less than 25 miles
3._____At least 25 but less than 50 miles
4._____At least 50 but less than 100 miles
5._____At least 100 but less than 200 miles
6._____At least 200 miles

31. How close is the place where you presently live to the school?
1._____I live on campus.
2._____Less than 1 mile away.
3._____At least 1 but less than 5 miles away
4._____At least 5 but less than 15 miles away
5._____At least 15 but less than 30 miles away
6._____At least 30 but less than 60 miles away
7._____At least 60 miles away

32. How many hours per week do you expect to spend studying outside of class?
1._____none
2._____5 hours
3._____10 hours
4._____15 hours
5._____20 hours
6._____More than 20 hours

33. How much do you expect the total costs (including everything--fees, books, housing, food, recreation, etc.) for the full length of training time to be?
1._____Less than $1,000
2._____At least $1,000 but less than $1,500
3._____At least $1,500 but less than $2,000
4._____At least $2,000 but less than $2,500
5._____At least $2,500 but less than $3,000
6._____At least $3,000 but less than $4,000
7._____At least $4,000

34. Of the total expected costs for the training program, which you checked in question 33, what percent do you expect to pay from each of the following sources?

1._____Personal savings
2._____Parents or guardian
3._____Loans
4._____Scholarships
5._____Part-time employment during school
6._____Summer Employment
7._____G.I. Bill
8._____Other

_____
Give Source

35. How much trouble do you expect to have in getting enough money to make it through this program?

1._____No trouble
2._____Some trouble, but I'll make it O.K.
3._____It will be difficult, but I can do it.
4._____It will be so difficult that I may not be able to finish.
5._____It will be so difficult that I probably will have to quit before finishing.

36. How did you first find out about this technical program?

1._____An ad in a newspaper or magazine
2._____Information from the school through the mail
3._____Advertisement on TV or radio
4._____From a school representative who contacted me
5._____From friends of mine
6._____From a vocational teacher in high school
7._____From a high school teacher other than a vocational teacher
8._____From a counselor in high school
9._____From somebody in the Vocational Rehabilitation office
10._____I heard about it from _____.

37. Did you ever visit with a counselor about possibilities of attending this program?

1._____Yes, I visited with a school counselor.
2._____Yes, I visited with a U.S. Employment Service counselor.
3._____Yes, I visited with a Vocational Rehabilitation counselor.
4._____Yes, I visited with a counselor from the Bureau of Indian Affairs.
5._____Yes, I visited with a Veterans Administration counselor.
6._____No--I never visited with a counselor.

38. Was there a guidance counselor in the high school you last attended? 1._____Yes 2._____No

39. IF THERE WAS A COUNSELOR IN THE HIGH SCHOOL YOU LAST ATTENDED, what did he tell you about enrolling in this program?

1._____He never talked to me about this program.
2._____He generally encouraged me to attend this program.
3._____He generally warned me not to enroll in this program.
4._____He told me about this program but neither encouraged me to go nor discouraged me from attending.

40. Did you seriously consider attending this program while you were in high school? 1._____Yes 2._____No

41. Did you make the final decision to attend this program while you were still in high school?
1._____Yes 2._____No

42. Before you came here, did a representative from this school visit with you about this program at some place other than this school?
1._____Yes 2._____No

43. Did you visit this school and look at its facilities before signing up? 1._____Yes 2._____No

44. Who most encouraged you to attend this school?
1._____My parents
2._____Relatives
3._____Friends about my age or not much older
4._____Friends of my family
5._____A previous employer of mine
6._____The people here at the school who operate it or work for it
7._____A teacher or counselor in high school
8._____Somebody in a government agency (such as Rehab., Indian Af., VA, etc.)
9._____Nobody encouraged me--I decided all by myself
10._____Other_____
Specify

45. When did you decide to go into the occupation for which you are now training?
1._____I really haven't decided--I'm still exploring
2._____I decided just before coming here to school. (less than one month before)
3._____I decided more than 1 month but less than six months before.
4._____I decided at least one year before coming here

46. Did you have a full-time paid job other than a summer job JUST BEFORE COMING to this school? (within 1 mo.)
1._____Yes 2._____No
NOTE: If your answer to the preceding question (no. 46) was "no" skip to question no. 51.

47 (A) IF YOU HAD A FULL-TIME PAID JOB JUST BEFORE COMING TO THIS SCHOOL (OTHER THAN A SUMMER JOB), what was this job?_____

(B) How long did you have this job?_____

48. IF YOU HAD A FULL-TIME PAID JOB JUST BEFORE COMING TO THIS SCHOOL (OTHER THAN A SUMMER JOB), how interested were you in that job?
1._____Very interested--I hesitated to leave it.
2._____Interested--I like it better than most things I could be doing.
3._____Mildly interested--It was O.K. but no more so than many other jobs I might have had.
4._____Little interested--I knew other things I would rather be doing.
5._____Not interested--I didn't like it and was looking for some way to leave it.

49. IF YOU HAD A FULL-TIME PAID JOB JUST BEFORE COMING TO THIS SCHOOL (OTHER THAN A SUMMER JOB), about how much money did you make a week?
1._____Less than $50 a week
2._____At least $50 but less than $75 a week
3._____At least $75 but less than $100 a week
4._____At least $100 but less than $150 a week
5._____At least $150 but less than $200 a week
6._____At least $200 a week

50. IF YOU HAD A FULL-TIME PAID JOB JUST BEFORE COMING TO THIS SCHOOL (OTHER THAN A SUMMER JOB), how closely related was it to the occupation for which you are now training?
1._____Very close--when I finish my training, I may go back to it.
2._____Close--the biggest difference is this training will let me work at a higher level.
3._____Somewhat related--there were some things similar to the occupation for which I am now training.
4._____Unrelated--it was an entirely different occupation than the one for which I am training.

51. Did you have a part-time of full-time paid job while going to high school? 1._____Yes 2._____No

52. What do you feel your chances are of getting a job in the field for which you are now training when you finish this training program?
1._____Excellent--I already know where I will be working.
2._____Good--this school places their graduates with little or no trouble.
3._____Fair--it seems some graduates get jobs but others do not.
4._____Poor--I guess it is strictly up to me to find my own job.
5._____I don't know--I have never considered it.

53. Could you get a job in this field without attending a training program such as this? 1._____Yes 2._____No

54. How interested are you in the occupation for which you are now training?
1._____Very interested--it is exactly what I want to do for a living.
2._____Interested--I think I will like it more than most things I might do.
3._____Mildly interested--I think it will be O.K. but no more so than many other things.
4._____Little interested--there are other things I would rather be learning.
5._____Not interested--I don't like it but there isn't much else for me to do now.

55. How confident are you that you can complete the program in which you are enrolled?
1._____Very confident--I am sure I will finish.
2._____Confident--I think I will probably finish.
3._____Unsure--I may or may not finish depending on what happens.
4._____Doubtful--I probably will not finish.
5._____Very doubtful--I plan to quit as soon as I can find a good job.

56. Upon completion of this training program, how much money per month do you think your first job will pay?
1._____$300 to $399 per month
2._____$400 to $499 per month
3._____$500 to $599 per month
4._____$600 to $699 per month
5._____Over $700 per month
6._____I have no idea.

57. At the end of five years of employment how much money do you think you will make per month?
1._____$400 to $499 per month
2._____$500 to $599 per month
3._____$600 to $699 per month
4._____$700 to $799 per month
5._____Over $800 per month

58. Upon completion of this program, what do you plan to do?
1._____Seek employment in a technical occupation for which I am training
2._____Continue my formal education on a full-time basis
3._____Enter military service
4._____Other

59 (A) If you expect to seek employment upon completion of this program, where do you prefer to work?
1._____In Oklahoma
2._____In another state
3._____I have no preference.

(B) Where do you expect to find your best opportunity for employment?
1._____In Oklahoma
2._____In another state
3._____I don't know

APPENDIX B

OTIS SUPPLY FORM II QUESTIONNAIRE

OCCUPATIONAL TRAINING INFORMATION SYSTEM

1. Name _____
   Last First Middle

2. Age _____ 3. Sex _____M _____F

4. Are you married? _____Yes _____No

5. Social Security Number _____(if any)

6. Permanent Address (Where you can be reached after graduation or completion: parent's home, etc.)

_____
Number & Street City, Town State Zip Code

7. Are you the head of a household? _____Yes _____No

8. Are you physically handicapped? _____Yes _____No

9. What is the name of the high school you are now attending or last attended? (If any)_____

10. Location of high school last attended_____

11. What program are you now taking?_____

12. Name of school or institution offering this program
_____

13. Expected date of graduation or completion from this program _____
Month Year

14. In this program, I am now in the
1._____First year 3._____Third year
2._____Second year 4._____Fourth year

15. Who most influenced you to enroll in this program?
1._____Relatives
2._____High school principal
3._____High school counselor
4._____Friends
5._____High school academic teacher
6._____Employer
7._____Vocational Teacher
8._____Nobody
9._____Other

16. Why did you enroll in this program?
1._____To prepare for a job
2._____Other _____(Specify)

17. How many years of school did you complete before entering this program? _____

18. What were you doing before you first enrolled in this program?
1._____Employed full-time (except summer employment)
2._____going to school
3._____Military
4._____Unemployed (Looking for work)
5._____Other

19. If your answer to question 18 was "employed full time," what was your job category?
1._____Professional or kindred workers (includes accountants, engineers, personnel workers, etc.)
2._____Technicians (Draftsman, electrical technician, etc.)
3._____Managers, Officials, Proprietors, Farm Owners, Farm managers.
4._____Clerical workers (includes bookkeepers, cashiers, storekeepers, etc.)
5._____Sales workers
6._____Craftsman, foreman, and kindred workers (includes carpenters, electricians, machinists, etc.)
7._____Operatives and kindred workers (includes apprentices assemblers, truck drivers, delivery men, welders, etc.)
8._____Service workers (including private household, janitors, guards, etc.)
9._____Laborer, (including farm)
10._____Other (Specify)_____

20. If employment opportunities are equal, do you plan to work in Oklahoma when you finish this program?
_____Yes _____No _____Don't know

21. I am presently
1._____a high school freshman
2._____a high school sophomore
3._____a high school junior
4._____a high school senior
5._____in post-high school first year
6._____in post-high school second year
7._____in Adult-Preparatory Training(Programs for Adults to prepare them for gainful employment)
8._____In Adult-Supplementary Training (Programs for Adults to improve skills or to acquire extra skills)

22. Which describes you?
1._____Indian
2._____Oriental
3._____Negro
4._____White
5._____Mexican American
6._____Other

23. In what size community did you live most of your life before age 14?
1._____Less than 2,500 population

2._____2,501 to 10,000 population
3._____10,001 to 25,000 population
4._____25,001 to 50,000 population
5._____Over 50,000 population

24. What was your family's primary source of income most of your life before you were 14?

1._____Farming
2._____Wages or Salary
3._____Other
4._____Self Employed
5._____Welfare
6._____Savings

25. Education of father or head of household when you were growing up.

1._____4th Grade or less
2._____5th or 6th Grade
3._____7th or 8th Grade
4._____9th or 10th Grade
5._____11th or 12th grade (Non-Graduate)
6._____Graduated from high school
7._____Some college but no degree
8._____Associate degree
9._____Baccalaureate degree
10._____Graduate work or professional degree

26. Occupation of father or head of household when you were growing up.

1._____Professional or kindred workers (includes accountants, engineers, personnel workers,etc.)
2._____Technicians (Draftsmen, electrical technicians, etc.)
3._____Managers, Officials, Proprietors, Farm Owners, Farm managers
4._____Clerical or kindred workers (includes bookkeepers, cashiers, storekeepers, etc.)
5._____Sales workers
6._____Craftsmen, foremen, and kindred workers (includes carpenters, electricians, machinists, etc.)
7._____Operatives and kindred workers (includes apprentices assemblers, truck drivers, delivery men, welders, etc.)
8._____Service workers (including private household workers, janitors, guards, etc.)
9._____Laborers (including farm)
10._____Other (Specify)_____

27. What was the approximate annual income of the household in which you lived last year?

1._____Under $3,000
2._____$3,000 to $4,999
3._____$5,000 to $6,999
4._____$7,000 to $8,999
5._____$9,000 to $ 11,999
6._____$12,000 to $15,000
7._____Over $15,000

28. How many people lived in the household referred to in Question Number 27 above? _____(Number)

VITA

2

Forrest John Leffler

Candidate for the Degree of

Master of Science

Thesis: PERSONAL AND SOCIAL CHARACTERISTICS OF STUDENTS AFFECTING THEIR DROP-OUT FROM TECHNICAL PROGRAMS

Major Field: Technical Education

Biographical:

Personal data: Born in Camden, New Jersey, June 25, 1933, the son of Mr. and Mrs. Elmer T. Leffler.

Education: Graduated from Central High School, Oklahoma City, Oklahoma, in 1951; attended the University of Oklahoma in 1951 and 1952; the University of Colorado in the summer of 1951; Oklahoma City University Night College from 1952 through 1960; Southern Methodist University in 1959 and 1960; received the Bachelor of Science Degree in Education with a major in Industrial Arts in May, 1966, from Central State College, Edmond, Oklahoma. Completed requirements for the Master of Science Degree with a major in Technical Education in May, 1970.

Professional Experience: Highway draftsman at the Oklahoma State Highway Department in 1956 through 1958. Highway Design Draftsman for several engineering firms in Oklahoma City and Dallas from 1958 through 1964. Mechanical Drawing and Mathematics Instructor at Parsons High School, Parsons, Kansas, in 1966. Substitute teacher in the Oklahoma City Public School System in 1967 and 1968.