

AN ANALYSIS OF SELECTED CHARACTERISTICS
OF ON-CAMPUS TECHNICAL INSTITUTE
STUDENTS

By

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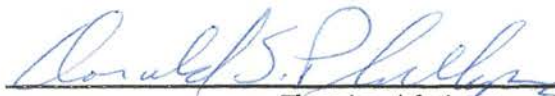
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CHAPTER I

INTRODUCTION

Prior to World War II, very few people actually understood the meaning of technician education. During the past three decades, the increased focus on science and engineering has resulted in widening the gap between the skilled worker and engineer to such a degree that many people have come to understand and accept the importance of technician education in this country. Due to new advances that technology has brought about, the problem has been recognized that the post-high school adult should have the opportunity to prepare for employment in technician occupations.

During the past two decades, the national government, recognizing the need for technician education, has passed several acts to support this type of education. The National Defense Education Act of 1958, the Vocational Education Act of 1963, and the Vocational Amendments of 1968, made available millions of dollars to train, retrain, and upgrade the people involved in the labor force of America.

Identification of the Problem Area

Technician education, or any part of education, cannot achieve its objectives if it does not know and understand the type of student who is attracted to the program and the type of student who is likely to achieve in that program (1, p. 80). Data relative to recently enrolled

technical students could be helpful in guiding potential technical students to a particular program and for helping students decide whether or not to enroll in a technical program.

Statement of the Problem

The purpose of this study is to examine selected characteristics of on-campus technical institute students. This study is concerned with the following questions:

- (1) Where do technical students come from?
 - (a) Do they come from a high, middle, or low socioeconomic environment?
 - (b) Do they come directly from high school or industry or a combination of both?
 - (c) Do they come from the military?
- (2) What are some of the describing characteristics of technical students?
 - (a) How old are they?
 - (b) Are they married?
 - (c) Why did they choose a particular vocation?
 - (d) How do technical students change during their education process?
- (3) What do technical students want?
 - (a) What level of education do they want?
 - (b) Where do they want to locate after graduation from the institution?
 - (c) What type of employment do they want?
 - (d) What do they expect in terms of salary when they enter the labor force?

Need for the Study

no general labor will be the important component removed

The need for technicians has increased rapidly during the past decade. The Bureau of Labor Statistics show that by 1975, industry will need 560,000 new technicians (2). With this demand, it is essential that meaningful technician programs be developed.

Since technician education is a relatively new field in the area of public education, very little research has been done pertaining to the students' characteristics (3). By knowing the basic characteristics which would describe a potentially successful technical student, we can establish programs that will meet the needs of the students and also develop a student with a desired level of skill in order to meet the demands of industry. These characteristics could also enable the prospective student to more soundly base a decision as to what institution to attend, help counselors do a more effective job of counseling students, and enable the instructors to communicate more effectively with the various types of students he will encounter.

According to Brumbaugh (4), any information concerning the students attending an institution is of vital importance. Concerning this, he states (4, p. 9):

The student is of primary concern to every college and university, not only because he is the focus of the educational program, but also because of the role he plays in society after he leaves college helps to create the image that the public has of the institution. The more that is known about the students--their characteristics, their experiences, their success and failures, both in and after college--the better can an institution formulate and evaluate its policies, programs, and procedures.

Myers (5) also contends that vocational success depends upon other factors as well as upon general intelligence and special aptitudes.

Regarding this, he states (5, p. 215):

Drive, emotional stability, initiative, ambition, personal disposition, and a whole group of character traits including industry, honesty, conscientiousness, dependability, courtesy, cooperativeness and loyalty must always be recognized as of great importance.

Astin (6), in 1965, indicated that the character of the student body is very important in determining the environment of the college.

Concerning this, he states (6, p. 2):

. . . the student choosing a college appears to be least informed about one aspect of the college--his potential fellow students--that probably will make the greatest difference in his actual college experience.

Maurice Graney (7) also contends that student characteristics are important tools for educators when he states (7, p. 87):

In the final analysis, educational programs must be planned to fit the particular talents and needs of students attracted to a program, educational planning should begin with a consideration of the students to be served.

The problem of developing a program that will take into account the characteristics of the type of students attracted to it and the limited amount of research available appears to justify that further research be done in the area of technical students' characteristics. It was expected that the results of this study would be helpful in describing the characteristics of the technical student and that the information obtained be beneficial to students, counselors, and administrators.

Limitations of the Study

This study was limited to the students that were currently enrolled in the Technical Institute located on the Oklahoma State University campus who had completed one full semester in either a two-year or

four-year program. The students were enrolled in one of the following six technical curriculums: aeronautical technology, drafting and design technology, mechanical technology (power), metallurgical technology, petroleum technology, or electronics technology. Three technologies, radiation and nuclear, construction, and fire protection, were not used because a four-year program degree was not offered at the time of the study.

Oklahoma State University is a federal land grant institution located in a county seat of approximately 25,000 population. The city is located in a rural area approximately 80 miles from the nearest metropolitan city.

Oklahoma State University is on the list of approved institutions of the Association of American Universities and is accredited by the North Central Association of Colleges and Secondary Schools. It is a member of the Association of Land-Grant Colleges, the Association of American Colleges, and the American Council on Education (8, p. 7).

Assumptions

The design of this study was based upon the assumptions that technical institute students enrolled in technician education programs will be similar to technician education students in future years and that the respondents gave accurate responses to a questionnaire that was designed to obtain information pertinent to the study.

Definition of Terms

Technician Education--education to earn a living in an occupation in which success is dependent largely upon technical information and

understanding of laws of science and principles of technology as applied to modern design, production, distribution and service (9).

Low Socioeconomic Level--any family with a total yearly income less than \$6,000 were considered to be in the low socioeconomic status (10).

Middle Socioeconomic Level--any family with a total yearly income between \$6,000 to \$9,999 were considered to be in the middle socioeconomic status (10).

High Socioeconomic Level--any family with a total yearly income of \$10,000 or above were considered in the high socioeconomic status (10).

CHAPTER II

REVIEW OF THE LITERATURE

This review deals with selected articles and studies that appear to contribute to what may be some of the most significant characteristics of technician education students. After reviewing the literature relating to the characteristics of technician education students, it appeared that this chapter should be divided into the following sections: (1) Descriptive Characteristics, (2) Educational Characteristics, (3) Psychological Characteristics, and (4) Sociological Characteristics of technician education students.

Descriptive Characteristics

In 1959, Henninger (11) reported that at entrance, the average age of the technical student is 20 years and the range from 18 to 27 years according to data from 93 post-high school institutions. A study conducted by Pucel and Nelson (12) in 1967, found Minnesota students to be slightly younger and have a smaller range. Data on 6400 area vocational-technical students revealed that 69 percent are 18 or under, 23 percent between 19 and 21, and only 8 percent exceed the age of 21. The data further revealed that 57 percent of the sample were male with only 7 percent married and that 92.5 percent were high school graduates.

Van Derslice (1) describes the technical student with an average age of about 19, and that large numbers of the technical students come

directly from high school or after a tour of the military. He further states that the general student population is young with the few older persons coming from the military or industry.

In 1967, Van Hall (13) reported the following description of the technical student based on 20 years of observation. He states (14):

The technical student is work oriented, pragmatic, has an unquenchable sense of curiosity and comes to school with clearly established goals. The technical student will show a strong aptitude in the mathematical, scientific, and mechanical areas, but will show little interest in English and social studies. The technical student's scores on standardized intelligence tests may not be a good indication of his true potential as a student, since these tests are largely verbal-based. Finally the technical student does not possess a deep social consciousness concerning what some students consider the great issues of the day. Club activities which are directly related to the technical student's curriculum are the only ones in which he is likely to show an interest.

Based on information from a state-wide study in North Carolina, the following description of the "Typical Technical Student" was formulated (14, pp. 33-34):

The typical technical student in the North Carolina community college or technical institute is a male, white, single, and between 18 and 22 years of age. He attends class more than 18 hours per week, during the day and is probably classified as a returning freshman.

The student attends an institution in his home county, lives with his parents, and travels less than 10 miles to class. He is employed, at least part-time. His parents had an income of more than \$5,000 during the last 12 months even though they do not have a twelfth grade education.

Educational Characteristics

John Van Derslice (1, p. 82) in his article "Technical Students' Characteristics" says, "Educationally, the technical education student is a person who has been able to graduate from high school, or is equivalent to a high school graduate." He continued to say, "It has

been determined by several studies that the intelligence level of most successful technical students is average, or above, but not as high as the students in four-year programs." Similar conclusions were drawn by Pucel and Nelson (12) in 1967. This study concluded that most technical students were well educated, were high school graduates, that most typically apply immediately after high school, and that they indicated previous vocational training in high school.

H. F. Huston (15) completed a study in 1968 to explore the relationships of goal-planning patterns in high school, and of selected variables of time orientation and value orientation in young adult life to educational attainment. From 189 subjects, the following conclusions were drawn:

1. No significant difference was found between the sex groups (100 women and 89 men) in educational attainment, the level of occupational achievement, and the level of aspiration for the future in young adult life.
2. Academic achievement in high school was positively related to post-high school educational attainment, the level of occupational achievement, and the aspiration level.
3. No relationship appeared between personal and social adjustment in high school and college graduation.
4. For men, a definite vocational plan, and parent consonance with the vocational plan, were associated with college graduation.
5. Non-graduates usually chose a practical purpose (vocational or income) as the most important reason for a college education.

Hakanson (16), in 1967, completed a study involving 1011 California students enrolled in occupational-centered education. Findings from this study indicated that a large portion (76 percent) of terminal students came from medium and low scholastic aptitude categories. Hakanson

found that among the terminal students, one-half of the women and one-third of the men had received occupational training previously. The study also revealed that while there were no significant differences between those students who transferred from another program and those who enrolled immediately after high school, only 14 percent of the students withdrawing from college transfer programs enrolled in occupation-centered curricula. This finding is consistent with the information reported by Taylor and Hecker (17). This study disclosed that students who are not successful in the program they select when graduating from high school tend to withdraw from college rather than change to another program. This remained true even though there were numerous alternative programs available.

Medsker's (18, p. 337) analysis of enrollments in 75 two-year colleges in 15 states revealed that only one-third of the students enrolled in technical or semiprofessional programs. He found that some of the problems that a junior college faces as it attempts to prepare semiprofessional workers are the lack of precise information about the needs of such students and greater prestige attached to a program which leads to transfer and B.S. degrees. Smith and Lipsett (19, p. 125) also point out that on questionnaires many students will unrealistically list prestige occupations such as physician, lawyer, and accountant as career goals due to social pressure for the B.S. degree. Concerning this, Henninger (11) has stated (11, p. 33):

This situation reflects one of the major problems which continues to arise to plague the technical institute idea in education. That is, the question of status--social status, if you please. This status question is inherent in the prevailing American habit of regarding a four-year baccalaureate degree more as a mark of social distinction than as a measure of the individual receiving it.

In a study completed by Cross (20) in 1970, the problem of social status was indicated. This study revealed that many students (64 percent) declared hopes to transfer to a four-year college.

Psychological Characteristics

With the structure of technician education being to prepare individuals for employment in a relatively short time, the students must display an early interest in the field they wish to enter. Cross (20) found that occupational students were twice as likely as the college-parallel groups to see the object of education as mostly, or entirely, job training. The study further revealed that the majority of the students were concentrating on skills that would be helpful to them in their future work.

Miller and Haller (21, p. 299) in 1964, found that occupational aspirations associated with school achievement, education of parents, and the aspirations the parents had for their children. Schroder and Sledge (22, pp. 97-104), however, suggested that personal and motivational factors may be more important determinants of college achievement than the socioeconomic level of the parents.

In 1961, Cattell and Warburton (23), concluded that technology students were much less anxious and more extroverted than those in a university. Similar findings were reported by Child (24, pp. 40-46) in 1966. This study used 617 technical students in the 1966 enrollees at the University of Bradford. The results showed that the population was more extroverted than the normal population. Kassarian and Kassarian (21, p. 299) disagreed when they found that there was no consistent pattern of values when comparing "inner-directed" and "outer-directed" individuals.

Sociological Characteristics

Surveys indicate the students entering technician education programs generally come from a lower socioeconomic structure than students entering engineering programs.

Hakanson (16), substantiates the above using the results from his study. This study concluded that 67 percent of the terminal students came from middle socioeconomic homes and 23 percent from the low socioeconomic homes. Hakanson found that lower socioeconomic students had a better chance of completing a two-year program than high socioeconomic students. Child (24) also found that proportionally more students were recruited from working class homes than is experienced by established universities.

In Phillip's study (25, p. 102), he reports that:

Differences among the group were found on each of the six factors related to socioeconomic background. Differences among the mean socioeconomic background scores were found to be significantly different at the .01 level. By examining the differences between all pairs of mean, two significant differences were found. Mean score for the technical institute group were found to be significantly higher than the mean scores for the vocational-technical group and junior college group approached significant at the .05 level. These data indicate that the vocation-technical school students came from lower socioeconomic backgrounds than did students at the other three institutions.

Cross (20) found that a child's ability to achieve in school is intricately interwoven with his family background. It was found that socioeconomic status and academic ability are related and that both influence who goes to college, where he goes, what his interests are, and how long he stays.

Relative to socioeconomic background and college attendance, Bradfield (26, pp. 123-129) exposed that socioeconomic level is an

important determinant in deciding who will go to college. By analyzing the personal characteristics of 72 students (36 from low income bracket) enrolled in both a state university and a junior college, it was found that the low income bracket had similar characteristics of the subjects that have appeared in studies of college dropouts. Nonetheless, the low income group had as good, or better, performance as measured by grade-point average and had possessed levels of aspiration equal to those of higher income bracket people.

In a study by Trenton Malry (27), investigations and comparisons were made regarding the educational aspirations of Anglo, Spanish-American, and Negro adolescents. It was found that within each sex-ethnic group, there existed a direct relationship between social class and absolute level of educational and occupational aspirations and an inverse relationship was found between social class and relative level of aspiration.

Perrone (21, p. 300) found students in two-year post-high school programs to be intellectually, socioeconomically, and educationally between those who terminate their education at high school and those who go on to four-year colleges and universities.

Brunken (21, p. 299) found that parental influence on career development and choice as being slight. Steimel and Suziedelis (21, p. 299), found that boys from father-dominated homes tend to lean towards the masculine type of occupations than those from mother-dominated homes. Bently (21, p. 299) concluded that value differences are relatively unimportant to the adolescent when he considers occupational choice variables.

In summary, there have been a number of studies and articles

directed towards identifying some of the distinguishing characteristics of technician education students. This review has dealt with the descriptive, educational, psychological, and sociological characteristics of technician education students. Only small amounts of information covering the psychological and sociological areas were found, whereas the other areas seem to have an abundance of information available. Evidence shows that this problem is due to lack of sophisticated measuring instruments in the psychological and sociological areas. It should be noted, however, that even in the area of educational characteristics, a detailed description of the student is not available. This is due to the relatively new existence of technician education.

CHAPTER III

PROCEDURES AND ANALYSIS OF DATA

Procedures

Subjects included in this study consisted of 105 students enrolled in one of the following six programs: aeronautical technology, mechanical technology (power), drafting and design technology, metallurgical technology, electronics technology, and petroleum technology. All students eligible for this study had been enrolled at least one full semester in either a two-year or four-year program. Twenty percent of the total enrollment in each program was evaluated and taken as the population of the study.

Table I illustrates the total enrollment and the number used for the study in each of the selected programs. The table reveals that of the 121 students enrolled in aeronautical technology, 24 students were used in the study; of the 110 students enrolled in drafting and design technology, 22 were used; of the 107 enrolled in mechanical (power) technology, 21 were used; of the 36 enrolled in metallurgical technology, seven were used, of the 119 enrolled in electronics technology, 24 were used; and of the 35 enrolled in petroleum technology, seven were used in the study.

All data was collected in group settings during class time within two to three weeks before the end of the spring semester, 1971. Two hundred and seven students were tested. Each completed questionnaire

was then coded, according to technical program, and a random sampling was drawn from each of the six groups to fill the "20 percent of total enrollment" figure stated previously.

TABLE I
DISTRIBUTION OF STUDENTS INCLUDED IN THE STUDY BY PROGRAM

Technology	Total Enrollment	20 Percent of Total Enrollment
Aeronautical	121	24
Drafting and Design	110	22
Mechanical (power)	107	21
Metallurgical	36	7
Electronics	119	24
Petroleum	35	7
Total	528	105

Table II illustrates the number tested, and utilized, within each program. The table reveals that there were 37 students tested in aeronautical technology, but only 24 used; there were 43 students tested in drafting and design technology, but only 22 used; there were 51 students tested in mechanical technology (power), but only 21 used; there were 18 students tested in metallurgical technology, but only seven used; there were 39 students tested in electronics, but only 24 used; and, there were 19 students tested in petroleum technology, but only seven used.

TABLE II
NUMBER OF STUDENTS TESTED AND USED BY PROGRAM

Technology	Number Tested	Number Used
Aeronautical	37	24
Drafting and Design	43	22
Mechanical (power)	51	21
Metallurgical	18	7
Electronics	39	24
Petroleum	19	7
Total	207	105

The Instrument

After considering the purposes and needs of the study, a 19 item questionnaire was constructed to obtain the information relevant to the selected characteristics. Many of the items were constructed which permitted the responses to be made by check marks. Five items remained open for written responses. These items obtained information regarding the age of the student, the occupations of both mother and father, the desired job of a graduating student, and the highest education level expected to be completed by the student. A copy of the questionnaire is included in Appendix A.

Analysis of Data

Data in Table III pertains to the respondent's sex category. The table reveals that 103, or 98.1 percent of the respondents, were male and two, or 1.9 percent, were female. The female respondents were enrolled in the drafting and design program.

TABLE III
DISTRIBUTION OF SUBJECTS BY SEX

Sex	Number Responding	Percent
Male	103	98.1
Female	2	1.9

Table IV illustrates the marital status of the individuals involved in the study. The table reveals that 43, or 41 percent were married; 61, or 58.1 percent were single; and one, or .9 percent, were separated.

TABLE IV
MARITAL STATUS OF RESPONDENTS

Status	Number Responding	Percent
Married	43	41.0
Single	61	58.1
Divorced	0	0.0
Separated	1	0.9
Widowed	0	0.0

Further analysis of the data revealed that the average age of the technical students involved was 22, and the range from 18 to 32 years of age. Responses indicated that the older students (26 to 32 years of age)

entered technician education after working for a period of time or a tour in the military.

Table V illustrates the percentage of students and the areas that they came from. The table reveals that 54, or 51.4 percent of the students, came from high school; 16, or 15.2 percent, were working before entering technician education; 13, or 12.4 percent, were in the military; and 22, or 21 percent, were attending another school before enrolling in technician education.

TABLE V
STUDENTS' ACTIVITIES BEFORE ENTERING TECHNICIAN EDUCATION

Activity	Number Responding	Percent
High School	54	51.4
Working	16	15.2
Military	13	12.4
Attending Another Institution	22	21.0

The data in Table VI is related to the data in Table V in that it details the "working" activity to a greater degree. The table reveals that of the 16, or 15.2 percent of the students that were working, 12, or 75 percent, came from industry, and 4, or 25 percent, indicated some other type of work before enrolling in technician education. The four types of work listed under "other" were farm work, welder, automobile mechanic, and service station work.

TABLE VI
STUDENTS' WORK EXPERIENCES BEFORE
ENTERING TECHNICIAN EDUCATION

Experience	Number Responding	Percent
Industry	12	75.0
Self-Employed	0	0.0
Other	4	25.0

Tables VII and VIII illustrate the education of father and mother respectively. Table VII reveals that 65, or 62 percent of the fathers, had a high school education or less while 40, or 38 percent of the fathers, had acquired some formal education beyond the twelfth grade. Table VIII reveals that 72, or 68.6 percent of the respondents' mothers, had a high school education or less while 33, or 31.4 percent, possess post-high school education.

TABLE VII
EDUCATION OF FATHERS

Level of Education	Number Responding	Percent
High school or less	65	62.0
Post-high school	40	38.0

TABLE VIII
EDUCATION OF MOTHERS

Level of Education	Number Responding	Percent
High school or less	72	68.6
Post-high school	33	31.4

Table IX portrays the socioeconomic level of the subjects used in the study. The table reveals that 29, or 27.5 percent of the respondents, were in the low socioeconomic range, 40, or 38.2 percent, were in the middle socioeconomic range, and 36, or 34.3 percent of the respondents, came from the high socioeconomic level.

TABLE IX
SOCIOECONOMIC PROFILE OF RESPONDENTS

Level of Income Per Year	Number Responding	Percent
Low \$999-5999	29	27.5
Middle \$6000-9999	40	38.2
High \$10,000 above	36	34.3

Table X illustrates the percentage of students and the reasons they had for enrolling in their particular training program. The table reveals that 24, or 22.8 percent of the students, indicated that their parents were the major factor for enrolling in their program; seven, or 6.7 percent, showed that friends their own age encouraged them to enroll; two, or 1.9 percent, specified that friends of their family encouraged them to enroll. One, or 0.9 percent, indicated that a previous employer encouraged him to enroll; six, or 5.7 percent, revealed that the people at the Technical Institute persuaded them to enroll; nine, or 8.6 percent, indicated that a teacher or counselor at their high school encouraged them to enroll; and 56, or 53.4 percent indicated that there was no particular reason for enrolling in their particular training program.

Data in Table XI illustrates the relation of occupational choice when compared to the occupations of the parents. The table reveals that 18, or 17.2 percent of the respondents, chose an occupational program that followed, or related, to their parent's occupation; while 87, or 82.8 percent of the respondents, chose an occupational program nonrelated to the parent's occupation. Since the technician's job can fall into a large spectrum of jobs, the term "related" is used to mean a common vocational interest, or knowledge, between the parent's occupation and the occupational program chosen by the student. Examples could be an electrician and electronics technology, an automobile mechanic and mechanical (power) technology, or a machinist and a metallurgical technician.

Table XII compares the enrollments of the declared two-year students to those students who were enrolled in the four-year programs.

TABLE X
FACTORS THAT INFLUENCE STUDENTS TO ENROLL IN A
PARTICULAR TRAINING PROGRAM

Factor	Number Responding	Percent
Parents	24	22.8
Relatives	0	0.0
Friends their own age	7	6.7
Friends of the family	2	1.9
Previous employer	1	0.9
People at the Technical Institute	6	5.7
Teacher or counselor at high school	9	8.6
Someone in a government agency	0	0.0
No reason	56	53.4

TABLE XI
RELATION OF STUDENT'S OCCUPATIONAL PROGRAM
TO PARENTAL OCCUPATIONS

Relation	Number Responding	Percent
Related	18	17.2
Non-Related	87	82.8

TABLE XII
DISTRIBUTION OF STUDENTS BY LENGTH OF PROGRAM

Length of Program	Number Responding	Percent
Two-year program	12	11.4
Four-year program	93	88.6

The table reveals that 12 students, or 11.4 percent of the population, were enrolled in a two-year program while 93, or 88.6 percent, declared to be enrolled in a four-year program.

Table XIII illustrates the educational aspirations of the students involved in the study. The table reveals that eight, or 7.6 percent, expected to complete no higher than an A.D. degree; 81, or 77.2 percent, expected to complete a B.S. degree; 13, or 12.4 percent, expected to complete a M.S. degree; one, or 0.9 percent, expected to complete a Ph.D. degree; and two, or 1.9 percent, were undecided on their expected educational attainment.

TABLE XIII
EDUCATIONAL ASPIRATIONS OF RESPONDENTS

Level or Degree	Number Responding	Percent
A.S. Degree	8	7.6
B.S. Degree	81	77.2
M.S. Degree	13	12.4
Ph.D. Degree	1	0.9
Undecided	2	1.9

The data in Table XIV illustrates the percentage of students and their responses when asked if they felt their chances of getting a job were good. The table reveals that 87, or 82.4 percent of the respondents, felt that their chances of obtaining a job were good and 18, or

17.6 percent felt that the chances of obtaining a job upon graduation were not good.

TABLE XIV
RELATIONSHIP OF STUDENT ATTITUDES REGARDING
THE POSSIBILITY OF OBTAINING
A JOB UPON GRADUATION

Attitude	Number Responding	Percent
Good	87	82.4
Bad	18	17.6

The data in Table XV illustrates the expected monthly earnings by the respondents at their first job upon completion of their program. The table reveals that one, or 0.9 percent of the respondents, expected to earn from \$300-399 per month; five, or 4.8 percent, expected to earn \$400-499 per month; ten, or 9.6 percent, expected to make from \$500-599 per month; 32, or 30.5 percent, expected to earn from \$600-699 per month; 54, or 51.4 percent, expected to earn from \$700-949 per month; and, three, or 2.8 percent, expected to earn above \$950 per month at their first job.

The data in Table XVI illustrates the percentage of students and their preferred locations upon graduating from their training program. The table reveals that 44, or 41.9 percent of the students, desired to work in Oklahoma; 16, or 15.2 percent, desired to work in another state;

TABLE XV
GRADUATES' EXPECTED SALARY IN DOLLARS
PER MONTH AT FIRST JOB

Dollars Per Month	Number Responding	Percent
\$300-399	1	0.9
\$400-499	5	4.8
\$500-599	10	9.6
\$600-699	32	30.5
\$700-949	54	51.4
\$950 above	3	2.8

TABLE XVI
RELATIONSHIP OF GRADUATES' PREFERRED
WORKING LOCATIONS

Location	Number Responding	Percent
In Oklahoma	44	41.9
In another state	16	15.2
No preference	45	42.9

and 45, or 42.9 percent, expressed no preference about location upon completion of their training program.

Table XVII is related to Table XVI in that it illustrates the relationship of working locations to the students that have more than two years experience in technician education. The table reveals that 26, or 65 percent of the students that have more than two years educational experience, preferred a definite working location (in Oklahoma or another state) and 14, or 35 percent of these students, expressed no concern regarding working locations. The table further reveals that 34, or 52.4 percent of the students with less than two years educational experience, preferred a definite working location, and 31, or 47.6 percent of these students did not prefer a definite location.

TABLE XVII
RELATIONSHIP OF PREFERRED WORKING LOCATIONS REGARDING
STUDENT'S EDUCATIONAL EXPERIENCE

Student's Educational Experience	Number Responding	Percent
Students with more than two years experience:		
Preferred working location	26	65.0
No preferred working location	14	35.0
Students with less than two years experience:		
Preferred working location	34	52.4
No preferred working location	31	47.6

Table XVIII illustrates the relationship of preferred working interests regarding the student's educational experience. Since the "technician" can fit into many areas of work in his technical speciality, this item was evaluated in terms of those students who preferred a specific type of work in their speciality to those students who had not preferred any specific type of work other than "technician." The table reveals that 25, or 62.5 percent of the students with more than two years experience in technician education, preferred a specific type of work, and 15, or 37.5 percent of these students, had not chosen a specific area of interest in their speciality. The table also reveals that 44, or 67.6 percent of the students who had less than two years experience in technician education, had no specific area of interest while 21, or 32.4 percent, of these students stated a specific area in which they wanted to work.

TABLE XVIII

RELATIONSHIP OF PREFERRED WORKING INTERESTS REGARDING
STUDENT'S EDUCATIONAL EXPERIENCE

Student's Educational Experience	Number Responding	Percent
Students with more than two years experience:		
Preferred working interests	25	62.5
No preferred working interests	15	37.5
Students with less than two years experience:		
Preferred working interests	21	32.4
No preferred working interests	44	67.6

The data in Table XIX illustrates the desired occupations of the respondents upon graduating from their training program. The table reveals that 74, or 70.5 percent of the students, desire to be employed in industry, business, management, sales, or service; 13, or 12.4 percent, desire employment in military, construction, or farming occupations; and 18, or 17.1 percent of the population, did not reveal what type of employment they desired.

TABLE XIX
DESIRED OCCUPATIONS OF TECHNICIAN EDUCATION STUDENTS

Occupation	Number Responding	Percent
Industry, business, management, sales, or service	74	70.5
Military, farming, or construction	13	12.4
No response	18	17.1

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this study was to examine some selected characteristics of on-campus technical institute students. A questionnaire containing 19 pertinent items was prepared and administered in group settings to 207 students of which 105 were used as the population of the study.

Summary

The data derived from the 105 questionnaires is presented in Chapter III. A brief summary of that data is as follows:

1. One hundred and three, or 98.1 percent of the respondents, were male and two, or 1.9 percent, were female.
2. Forty-three, or 41 percent of the respondents, were married, 61, or 58.1 percent, were single, and one, or 19 percent, were separated.
3. The average age of the respondents was 22 and ranged from 18 to 32 years of age.
4. Fifty-four, or 51.4 percent of the respondents, came from high school, 16, or 15.2 percent, were working, 13, or 12.4 percent, were in the military, and 22, or 21 percent, were attending another educational institution before entering technician education.
5. Twelve, or 75 percent of the "working" group, were in industry and four, or 25 percent, were working in other areas before entering technician education.

6. Sixty-five, or 62 percent of the respondents' fathers, had a high school education or less and 40, or 38 percent of the fathers, had some education beyond the twelfth grade.

7. Seventy-two, or 68.6 percent of the respondents' mothers, had a high school education or less and 33, or 31.4 percent of the mothers, had some post-high school education.

8. Twenty-nine, or 27.5 percent of the respondents, were in the low socioeconomic range, 40, or 38.2 percent, were in the middle socioeconomic range, and 36, or 34.3 percent of the respondents, were in the high socioeconomic range.

9. Twenty-four, or 22.8 percent of the respondents, indicated that their parents were the major factor for enrolling in technician education, seven, or 6.7 percent, indicated that friends their own age encouraged them to enroll, two, or 1.9 percent, said that friends of their family urged them to enroll, one, or .9 percent, indicated that a previous employer urged him to enroll, six, or 5.7 percent, revealed that the people at the Technical Institute urged them to enroll, nine, or 8.6 percent, indicated that a teacher or counselor at their high school persuaded them to enroll, and 56, or 53.4 percent, indicated that there were no particular reasons for enrolling in technician education.

10. Eighteen, or 17.2 percent of the respondents, chose an occupational program that followed, or related, to their parent's occupation and 87, or 82.8 percent, chose an occupational program non-related to their parent's occupation.

11. Twelve, or 11.4 percent of the respondents, were enrolled in a two-year program and 93, or 88.6 percent, were enrolled in a four-year program.

12. Eight, or 7.6 percent of the respondents, desired to acquire an A.S. degree, 81, or 77.2 percent, expected to complete a B.S. degree, 13, or 12.4 percent expected to complete a M.S. degree, one, or 0.9 percent expected to complete a Ph.D. degree, and two, or 1.9 percent were undecided on their educational aspirations.

13. Eighty-seven, or 82.4 percent of the respondents, felt that their chances of getting a job were good and 18, or 17.6 percent, felt that their chances of getting a job were not good.

14. One, or 0.9 percent of the respondents, expected to earn from \$300-399 per month, five, or 4.8 percent, expected to earn \$400-499 per month, ten, or 9.6 percent, expected to earn from \$500-599 per month, 32, or 30.5 percent, expected to earn from \$600-699 per month, 54, or 51.4 percent, expected to earn from \$700-949 per month, and three, or 2.8 percent, expected to earn above \$950 per month at their first job.

15. Forty-four, or 41.9 percent of the respondents, desired to work in Oklahoma, 16, or 15.2 percent desired to work in another state, and 45, or 42.9 percent, expressed no preference about location upon completion of their training program.

16. Twenty-six, or 65 percent of the students that have more than two years' educational experience, preferred a definite working location and 14, or 35 percent of these students, expressed no concern regarding working location.

17. Thirty-four, or 52.4 percent of the students with less than two years' educational experience, preferred a definite working location and 31, or 47.6 percent of these students, did not prefer a definite working location.

18. Twenty-five, or 62.5 percent of the students with more than two years' educational experience, preferred a specific type of work in their technical specialty and 15, or 37.5 percent of these students, had not chosen a specific area of interest in their specialty.

19. Forty-four, or 67.6 percent of the students who had less than two years' educational experience, had no specific area of interest in their specialty while 21, or 32.4 percent of these students, stated a specific area in which they wanted to work.

20. Seventy-four, or 70.5 percent of the students, desired employment in industry, business, management, sales or service, 13, or 12.4 percent, desired employment in military, farming, or construction occupations, and 18, or 17.1 percent of the students, did not reveal what type of employment they desired.

Conclusions

Three major research questions are stated in Chapter I and subsequently answered through the use of twelve independent questions. Each independent question and the pertinent findings related to it are listed below. The reader should bear in mind that all conclusions derived from this study are based on information obtained from the 105 questionnaires analyzed in the study.

Four sub-questions were used to ascertain the answer to the first research question "Where do technical students come from?" Following are the questions and the findings pertinent to them.

1. Do they come from a high, middle, or low socioeconomic environment?

Findings from this study indicate that 29, or 27.5 percent of

the students, came from a low socioeconomic range, 40, or 38.2 percent, were in the middle socioeconomic range, and 36, or 34.3 percent of the students, were from the high socioeconomic environment.

2. Do they come directly from high school or industry or a combination of both?

Findings of this study indicate that 54, or 51.4 percent of the students enrolled directly from high school and that 16, or 15.2 percent of the students, were working, 12 of which came from industry.

3. Do they transfer from other educational institutions?

Findings from this study showed that 22, or 21 percent of the respondents transferred from another educational institution before entering technician education.

4. Do they come from the military?

Findings from this study showed that 13, or 12.4 percent of the students enrolled in technician education after a tour in the military.

Four sub-questions were used to ascertain the answer to the second research question "What are some of the describing characteristics of technical students?" Following are the questions and the findings pertinent to them.

1. How old are they?

Findings from this study indicate that the average age of the students involved in this study was 22 and that the range was from 18 to 32 years of age.

2. Are they married?

Findings from this study indicate that 43, or 41.0 percent of the students involved in this study, were married.

3. Why did they choose a particular vocation?

A person's choice of a particular vocation depends to some extent on his abilities, attitudes, interests, and other personal traits, as well as environmental pressures. This study was designed to ascertain who/what most encouraged the technical student to enroll in a particular training program. The findings indicate that 24, or 22.8 percent of the students, believed that their parents were the major factor for enrolling in a particular program, seven, or 6.7 percent, stated that friends their own age was the major factor, two, or 1.9 percent, felt that friends of their family were the major factor for enrolling, one, or 0.9 percent, stated that a previous employer was the major factor for enrolling, six, or 5.7 percent, indicated that the people at the Technical Institute were the major factor for enrolling, nine, or 8.6 percent, indicated that a teacher or counselor at their high school was the major factor for enrolling, and 56, or 53.4 percent, stated that there were no particular reasons for enrolling in their particular training program.

4. How do technical students change during their education process?

Not enough information was obtained to answer this question to a great extent. Findings from this study did indicate, however, that a greater number of students with more than two

years experience in technician education desired a specific type of job in their specialty than students with less than two years experience in technician education. This study showed that 25, or 62.5 percent of the students that had more than two years of experience in technician education, desired a definite position while 21, or 32.4 percent of the students with less than two years experience, revealed a desired position after graduation. Fifteen, or 37.5 percent of the students with more than two years experience, and 44, or 67.6 percent of the students who had less than two years experience, expressed no concern regarding positions or jobs available within their technical specialty. This study also discovered that students with more than two years of technician education were more concerned regarding locations of employment than students with less than two years of technician education. This study showed that 26, or 65 percent of the students with more than two years of technician education, and 34, or 52.4 percent of the students with less than two years of technician education, had preferred working locations. Fourteen, or 35 percent of the students with more than two years of technician education, and 31, or 47.6 percent of the students that had less than two years of technician education, did not prefer any certain working locations.

Four sub-questions were used to ascertain the answer to the third research question "What do technical students want?" Following are the questions and the findings pertinent to them.

1. What level of education do they want?

The findings of this study indicate that eight, or 7.6 percent of the students, expected to complete an A.S. degree, 81, or 77.2 percent, expected to complete a B.S. degree, 13, or 12.4 percent, expected to complete a M.S. degree, one, or 0.9 percent, expected to complete a Ph.D. degree, and two, or 1.9 percent of the students, did not know what level of education they wanted.

2. Where do they want to locate after graduating from the institution?

The findings from this study indicated that 44, or 41.9 percent of the students, wanted to remain in Oklahoma after graduation, 16, or 15.2 percent of the students, wanted to migrate to another state, and 45, or 42.9 percent of the students had no preference as where they wanted to locate after graduation.

3. What type of employment do they want?

Findings from this study indicated that 74, or 70.5 percent of the students wanted employment in industry, business, management, sales, or service, 13, or 12.4 percent wanted employment in military, farming, or construction, and 18, or 17.1 percent of the students, did not reveal what type of employment they desired.

4. What do they expect in terms of salary when they enter the labor force?

Findings from this study indicate that one, or 0.9 percent of the respondents, expected to earn from \$300-399 per month, five, or 4.8 percent, expected to earn \$400-499 per month, ten, or 9.6 percent, expected to earn from \$500-599 per month, 32,

or 30.5 percent, expected to earn \$600-699 per month, 54, or 51.4 percent, expected to earn \$700-949 per month, and three, or 2.8 percent, expected to earn above \$950 per month when they enter the labor force.

A SELECTED BIBLIOGRAPHY

- (1) Van Derslice, John F. "Technical Students' Characteristics." Industrial Arts and Vocational Education, Vol. 57, No. 2 (February, 1968), pp. 80-87.
- (2) Industrial Arts and Vocational Education, Vol. 58 (September, 1969), TE 4.
- (3) Larson, Milton E. Review and Synthesis of Research in Technical Education. Columbus: The Center for Research and Leadership Development in Vocational Technical Education. The Ohio State University, 1966.
- (4) Brumbaugh, A. J. Research Designed to Improve Institutions of Higher Learning. The American Council on Education, Washington, D. C.
- (5) Myers, George E. Principles and Techniques of Vocational Guidance, New York and London: McGraw-Hill, 1941, pp. 215-250.
- (6) Astin, Alexander W. Who Goes Where to College? Chicago: Science Research Associates, Inc., 1965.
- (7) Graney, Maurice. The Technical Institute. New York: The Center for Applied Research in Education, Inc., 1964.
- (8) Oklahoma State University Catalog, 1970-72. Stillwater, 1970.
- (9) Committee on Publications. Definitions of Terms in Vocational, Technical, and Practical Arts Education. Washington: American Vocational Association.
- (10) Bureau of the Census. Statistical Abstract of the United States, 1970. U. S. Department of Commerce, p. 525.
- (11) Henninger, G. The Technical Institute in America. National Survey of Technical Institute Education Under ASEE. Carnegie Series in American Education. New York: McGraw-Hill, 1959.
- (12) Pucel, David J., and Howard F. Nelson. Project Mini-score: Some Preliminary Implications for Vocational Guidance, United States of Education, 1968, ED 025 658.
- (13) Van Hall, Milo E. "The Technical Education Student," Journal of Technology, VI, No. 2 (spring, 1967).

- (14) Socio-Economic Profile of Credit Students in the North Carolina Community College System. Washington: U. S. Department of Health, Education and Welfare, Office of Education, Bureau of Research, July, 1969.
- (15) Huston, Francis H. "A Follow-Up Study of a Group of Academically Talented Students With Reference to Selected Factors of Vocational Development and Post-High School Education." (unpublished Ed.D. dissertation, University of Southern California, 1968).
- (16) Hakanson, John W. Selected Characteristics, Socio-Economic Status, and Levels of Attainment of Students in Public Junior College Occupation-Centered Education. Berkeley: University of California, 1967.
- (17) Taylor, Ronald G., and Donald L. Hecher. Interest and Intellectual Indices Related to Successful and Non-Successful Male College Students in Technical and Associate Degree Programs. Big Rapids: Ferris State College, 1967.
- (18) Medsker, Leland L. Review of Educational Research, XXX, No. 4 (October, 1960), p. 337.
- (19) Smith, Leo R., and Laurence Lipsett. The Technical Institute. New York: McGraw-Hill, 1956.
- (20) Cross, Patricia K. "Occupationally Oriented Students." Junior College Research Review, Vol. V, No. 3 (November, 1970).
- (21) Perrone, Philip A. Review of Educational Research, XXXVI, No. 2 (April, 1966), p. 299.
- (22) Schroder, W. L., and G. W. Sledge. "Factors Related to Collegiate Academic Success." Journal of College Student Personnel, Vol. 7 (1966).
- (23) Cattell and Warburton, British Journal of Educational Psychology, Vol. 39, Part 1 (February, 1969), pp. 40-46.
- (24) Child, Dennis. "A Comparative Study of Personality, Intelligence, and Social Class in a Technological University." British Journal of Educational Psychology, Vol. 39, Part 1 (February, 1969).
- (25) Phillips, Donald S. "Personal and Social Background Characteristics of Entering Technician Education Students at Four Post-High School Institutions." (unpublished Ed.D dissertation, Oklahoma State University, 1968).
- (26) Bradfield, L. E. "College Adjustment and Performance of Low-Income Freshman Males." Personnel and Guidance Journal, Vol. 46, No. 2 (October, 1967), pp. 123-129.

- (27) Malry, Lenton. "The Educational and Occupational Aspirations of Anglo, Spanish, and Negro High School Students." (unpublished Ph.D. dissertation, University of New Mexico, 1968).

APPENDIX

STUDENT INFORMATION FORM

Department of Technical Education
Oklahoma State University
1971

INSTRUCTIONS: Read the question carefully and indicate your selection.
Do not leave any questions unmarked.

1. Sex
 1. Male
 2. Female
2. Marital Status
 1. Married
 2. Single
 3. Divorced
 4. Separated
 5. Widowed
3. Age (in years)

4. Highest grade completed by your father (circle number)

7	8	9	10	11	12
High School					
1	2	3	4		
College					

Other (specify)					
5. Highest grade completed by your mother (circle number)

7	8	9	10	11	12
High School					
1	2	3	4		
College					

Other (specify)					
6. What is (or was) your father's occupation?

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

8. Estimated parent income for last 12 months
 1. less than \$999
 2. \$1000-1999
 3. \$2000-2999
 4. \$3000-3999
 5. \$4000-4999
 6. \$5000-5999
 7. \$6000-7499
 8. \$7500-9999
 9. above \$10,000
9. What were you doing (at least 1 year) before enrolling in the Technical Institute?
 1. Going to high school
 2. Working
 3. In the military
 4. Attending another school
10. If your answer to question 9 was working, which of the following best indicates what type of work?
 1. Industry
 2. Self-employed
 3. Other _____
(specify)
11. Are you currently enrolled in
 1. Two-year program (Associate degree)
 2. Four-year program (Bachelor's degree)

12. What is the highest level of education you expect to complete?
-
13. When did you first enroll in the Technical Institute?
- | Month | Year |
|-------|------|
| | |
14. What/Who most encouraged you to enroll in your particular training program?
1. My parents
 2. Relatives
 3. Friends about my age
 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 at high school
 8. Somebody in a government agency (such as Rehab., Indian Affairs, etc.)
 9. Nobody encouraged me-- I decided all by myself
15. Do you feel that your chances of getting a job upon completion of this training program are good?
1. Yes
 2. No
16. Upon completion of your training program, what kind of job do you expect to obtain?
-
17. Upon graduation of this training program, how much money per month do you expect to earn at your first job?
1. \$300-399
 2. \$400-499
 3. \$500-599
 4. \$600-699
 5. \$700-949
 6. over \$950
18. In which of the particular programs are you currently enrolled?
1. Aeronautical Technology
 2. Drafting and Design Technology
 3. Mechanical (power) Technology
 4. Metallurgical Technology
 5. Electronics Technology
 6. Petroleum Technology
 7. Fire Protection Technology
 8. Radiation and Nuclear Technology
 9. Construction Technology
19. If you seek employment upon completion of this program, where do you prefer to work?
1. In Oklahoma
 2. In another state
 3. I don't care

VITA^s

Jack Alan Ledbetter

Candidate for the Degree of
Master of Science

Thesis: AN ANALYSIS OF SELECTED CHARACTERISTICS OF ON-CAMPUS TECHNICAL
INSTITUTE STUDENTS

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