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A STUDY OF INDUSTRIAL ARTS GRADUATES OF
NORTH TEXAS STATE UNIVERSITY
FROM 1956 THROUGH 1965

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

Master of Science

By

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CHAPTER I

INTRODUCTION

A survey of reference materials indicated the only information available concerning industrial arts graduates of North Texas State University was provided as the result of a study conducted by Nelson (5) in 1955. Due to changing social and economic conditions, it was felt that an updated study of industrial arts graduates would be of value. Therefore, the problem of this study was to provide current information relative to industrial arts graduates of North Texas State University from 1956 through 1965.

Purpose of the Study

This study was conducted to collect and analyze data relative to the employment status of industrial arts graduates. To be more specific, the purposes of the study were:

1. To identify and compare the employment status of the industrial arts graduates.
2. To determine the relationship of the graduates' age, marital status, family size, previous education and work experience to the graduates' status of employment.
3. To determine the value and the relationship of the education received at North Texas State University, with the status of employment of the graduates.

4. To identify influencing factors involved in the selection by the graduates of the fields of their employment.

5. To ascertain if there was any difference between the earning powers of and success achieved by the graduates with the teaching certificate and those graduates who chose not to secure the teaching certificate.

Significance and Need of the Study

Much can be said about the significance of information received from graduates of an educational program. In discussing occupational opportunities, author J.L. Angel said in regard to the importance of information received from graduates, "What we need today is more information that relates to clear and simple job classifications, employment, and remuneration. Some of this information is available, but it is not as complete and current as it should be (2, p. 1)." In response also, to the importance of information from graduates, Walter Slocum of Washington State University said, "The importance of providing reliable information about employment prospects, job requirements, and potential rewards and satisfactions to those who want to make rational occupational decisions should be evident (7, p. 223)." In an article concerning occupational choices and success achieved, Irvin Lanthrop and others expressed the value of the opinions of industrial arts graduates, "Only the graduate can evaluate how well he has been prepared to meet the competition

found . . . The best determinant of the degree of success is the opinion of the graduates . . . (4, p. 34)."

In respect to the need of this study, it was noted that current information concerning industrial arts graduates of North Texas State University was not available. Therefore, it was believed the information furnished by the study would be of value and would serve a definite need.

The data furnished by this study can serve both the students and faculty of North Texas State University. The study gives an insight at what the student might expect following completion of the instructional program. The study can serve the faculty in effective guidance and counseling of students. In general, it is hoped that the study has provided data that can be used in answering many of the questions often asked of the industrial arts graduates.

Limitations of the Study

For the purpose of this study, the following limitations were necessary:

1. The study was limited to graduates of North Texas State University.
2. The study was further limited to 182 respondents to the study who received the Bachelor of Science degree in industrial arts during the years of 1956 to 1965 inclusive.
3. An evaluation of the curriculum, faculty, and the Department of Industrial Arts of North Texas State University was not included in this study.

Basic Assumptions

During the course of this study the following natural assumptions had to be made:

1. It was assumed that the employment status of recent industrial arts graduates differed from the status attained by earlier graduates, as was reported in a study by Nelson (5) in 1955.

2. It was assumed that a relationship did exist between the graduates' age, marital status, family size, previous education and work experience and the employment status of the graduates.

3. It was assumed certain influencing factors were involved in the selection by the graduates of the fields of their employment.

4. It was also necessary to assume the industrial arts graduates placed some value on their education and that a relationship did exist between the education received and their employment status.

5. It was assumed the graduates who earned the teaching certificate would enter employment in the field of education.

6. It was also assumed that those graduates who did not receive teaching certificates upon graduation from college would secure employment in some field unrelated to education.

7. It was necessary to assume the samplings involved in this study are representative of the group involved and that the collected data are accurate.

Definition of Terms

For the purpose of this study, the meaning of certain terms is defined as follows:

Industrial arts graduate is an individual who has satisfied the requirements set forth for the baccalaureate degree in industrial arts at North Texas State University.

Respondent is the term used to identify the graduate who responded to the request for information in this study.

Teaching Certificate applies to the completion of the requirements for Texas teacher certification as is described in the North Texas State University Bulletin (6).

Educational employment is used in identifying those positions involving teaching, or those jobs normally associated with educational work.

Industrial or business employment refers to any employment in the fields of industry or business which is not related to education.

Sources of Data

The data for this study were obtained from the following:

1. Permanent files located in the office of the Industrial Arts Department of North Texas State University.
2. Questionnaires completed and returned by 182 industrial arts graduates of North Texas State University.

Procedure of Study

In order to conduct this study, it was necessary to gather data concerning the industrial arts graduates of North Texas State University. A list of the industrial arts graduates from 1956 through 1965 was compiled from graduation exercise programs located in the Industrial Arts Department. All names appearing in these programs and designated as receiving the Bachelor of Science degree in industrial arts were recorded. It was found there were 515 recipients of the baccalaureate degree in industrial arts during this period.

Addresses for the industrial arts graduates were then compiled from the 1968 North Texas State University Alumni Directory (1). Addresses were obtained for 391 of the 515 graduates. A study of each graduate's degree plan indicated 318 of the 391 graduates completed the requirements for and received the teaching certificate upon graduation. The other 73 graduates chose not to secure the teaching certificate at the time of graduation.

Questionnaires (Appendix B and Appendix C) were designed to gather data from each group of the graduates. Because of the difference in size of the two groups, only one-half of those graduates that received the teaching certificate were involved in the study. They were selected by taking every other graduate with an available address from the alphabetical listing as the graduates' names appeared in the graduation exercise program.

On May 23, 1969, questionnaires were mailed to 159 graduates with the teaching certificates and to the 73 graduates without the teaching certificates. On June 2, 1969 a reminder letter was mailed to those graduates who had not returned their questionnaire. One week later, a follow-up letter and an additional questionnaire was mailed to those graduates who had not responded.

After the responses to the mailings had stopped, the task of tabulating the data received from the respondents began. The data were tabulated and analyzed for number and percentage of responses to each question involved in the study. The total data furnished the basis for this study and are presented through the use of statistical procedures.

Organization of the Study

In reporting the results of this study it was necessary to organize the data into logical units of interest.

Chapter I is an introduction to the study. Included in this chapter are the purpose of the study, significance and need of the study, limitations of the study, sources of data, procedures of the investigation, basic assumptions, definition of terms used in the study, organization of the study, and summaries of recent and related studies.

Chapter II presents information relative to the personal characteristics of the respondents, with emphasis on age, marital status, family size, previous educational and employment experiences, and influencing factors involved in the selection

of industrial arts as a major field of study.

Chapter III is concerned with the employment status and work experiences of the respondents who received the teaching certificate upon graduation. Factors relating to the number and types of employment changes made by the respondents are discussed as are future employment plans. A discussion of salaries and promotions received is also included in this chapter. Additional data are presented relative to the value of the education received at North Texas State University and the significance of additional education secured by the graduates.

Chapter IV concerns itself with data relative to the respondents who did not receive a teaching certificate upon graduation. Data presented include beginning and current salaries, sources of information leading to initial areas of employment, beginning and current employment fields, factors relating to employment changes, promotions received, and future employment and education plans.

The purpose of Chapter V is to present comparisons of the data previously mentioned in Chapter III and Chapter IV. The comparisons pertain to sources used by the respondents in securing employment immediately following graduation from college, initial areas of employment and salaries of the respondents, current employment fields and salaries, factors pertaining to employment changes, positions held, and promotions received by the respondents. Additional comparisons

are presented relative to future employment plans, business and industrial experiences, and additional education received.

Chapter VI includes a summary, findings, and conclusions of the study. Recommendations for further consideration are also presented in Chapter VI.

Recent and Related Studies

A study of available resource materials indicated that many studies of the follow-up nature have been made concerning public school, college, and university students alike. Brief summaries of the more closely related college studies are presented as follows:

Belisle's (3) study concerned itself with the industrial arts graduates of Northwestern State College. The graduates seemed to be equally divided between teaching positions, industrial vocations, and other fields. The salaries of those graduates involved in teaching professions proved to be lower than those in other employment. Most graduates evaluated the training received as helpful in present employment.

Nelson (5) conducted an extensive follow-up study of the graduates of North Texas State College. The purposes of the study were as follows:

To obtain information concerning the professional status and location of the individuals who graduated from North Texas State College with a major in industrial arts; to obtain some measure of the effectiveness of the training these individuals received in preparing them for their position; to secure their suggestions for the improvement of the program of industrial arts at the college; and to furnish, on the basis of evaluations made by the graduates, data upon which authorities at the college might justify changes in the present program (5, p.132).

Nelson's study showed the majority of the graduates were involved in some phase of educational employment. Many of the graduates had completed an advanced degree. A larger number of those graduates involved in industrial employment were in some phase of the aircraft industry. Nelson's study showed the mean beginning salary of the graduates who were employed in industry was somewhat higher than those entering the teaching profession. The graduates involved in the study noted there were specific courses that were considered of more value than others. The graduates noted there should be a more effective program in guidance and counseling. It was also noted that consideration should be given to providing a curricula of terminal education for those students who were planning to enter industrial occupations.

In the study by Willis (8), it was found that those students who entered the technical education program at Tyler Junior College, did so because of interest in that type of work. Many respondents to the study noted their preparation at the school had proved helpful in employment. Most students entered occupations closely related to their technical education received.

Wiltsie's (9) study was a survey of the industrial education graduates of Iowa State College. The survey attempted to obtain and define the job classifications of the graduates. Although many of the graduates were involved in teaching, 42 per cent were in industry. Twelve vocations were represented

by the industrial group. Most of these were in some field of engineering. Thirty-one per cent of the graduates changed from teaching to non-teaching, with only 9.4 per cent going from industry to teaching.

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CHAPTER II

PERSONAL DATA CONCERNING THE RESPONDENTS

Data presented in this chapter pertain to the personal characteristics of the 182 respondents of this study. The information concerning the number and selection of the graduates and the years of graduation was obtained through research in the office of the Industrial Arts Department at North Texas State University. All other information appearing in this chapter, which includes age, marital status, family size, work experience, educational background, and factors influencing the selection of industrial arts as a major field of college study, was obtained from questionnaires completed by the respondents.

Distribution of the Respondents According to Year of Graduation and Degree Received

The data for this study were obtained from responses to questionnaire forms mailed to 1956 through 1965 industrial arts graduates of North Texas State University. The data in Table I are concerned with the distribution of the respondents according to the year of graduation and the type of degree received.

Of the 232 questionnaires sent to graduates, 79.1 per cent, were returned. The percentage of return was slightly

TABLE I
DISTRIBUTION OF RESPONDENTS BY YEAR OF
GRADUATION AND DEGREE RECEIVED

Year	Respondents					
	With Teaching Certificate			Without Teaching Certificate		
	Number of Forms Sent*	Number of Respondents	Per Cent Return**	Number of Forms Sent***	Number of Respondents	Per Cent Return**
1956	16	12	75.0	4	3	75.0
1957	13	10	76.9	4	3	75.0
1958	20	17	85.0	7	6	85.7
1959	18	13	72.2	12	11	91.6
1960	11	11	100.0	5	3	60.0
1961	14	10	71.4	6	3	50.0
1962	17	13	76.5	14	13	92.8
1963	10	6	60.0	1	1	100.0
1964	21	18	85.7	12	9	75.0
1965	19	13	68.4	8	7	87.5
Total	159	123	77.3	73	59	80.8

* Number indicates one-half of the graduates with available addresses for each respective year

** Percentage based on number of questionnaire forms mailed

*** Number indicates total number of graduates with available addresses for each respective year

higher for the group without the teaching certificate, as indicated in Table I. Fifty-nine, or 80.8 per cent, of the graduates without the certificate completed and returned the questionnaire. One hundred twenty-three, or 77.3 per cent, of the group with the certificate, responded to the study.

Age Distribution of the Respondents
by Type of Degree Received

The data presented in Table II concern the age distribution of the respondents. The ages of the graduates with the teaching certificate ranged from 25 to 56, with a mean age of 33. The range for the graduates without the teaching certificate was from 26 to 40, with a mean age of 31.

TABLE II
AGE DISTRIBUTION OF RESPONDENTS BY
TYPE OF DEGREE RECEIVED

Age	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
25-29	29	23.2	13	21.7
30-34	42	33.0	31	52.1
35-39	44	35.6	6	9.8
40-44	7	5.6	2	3.3
45-49	2	1.6	0	.0
50-54	1	.8	0	.0
55-59	1	.8	0	.0
n.r.**	0	.8	7	11.8
Total	123	100.0	59	100.0

* Percentage based on total number of respondents in each group

** Graduates who did not report age

It is interesting to note that of the 175 respondents reporting their age, 97.8 per cent were between 25 and 40 years of age. Seven of the respondents without the teaching certificate failed to report their age.

Marital Status of the Respondents

It was considered important to the study to know the marital status and family size of the respondents. It was felt that the size of the family might be a determining factor in the choice of employment. Table III presents data concerning the marital status of the respondents.

TABLE III
MARITAL STATUS OF THE RESPONDENTS

Status	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
Single	7	5.7	7	11.8
Married	114	92.7	51	86.5
Separated	0	.0	0	.0
Divorced	1	.8	1	1.7
Widowed	1	.8	0	.0
Total	123	100.0	59	100.0

* Percentage based on total number of respondents of each group

The data collected indicate 92.7 per cent of the respondents with the teaching certificate, and 86.5 per cent of the respondents without the certificate were married. Seven respondents in each group indicated they were single, while one from each group indicated he was divorced.

Number of Children

Thirty-one respondents of the study reported they had no children. The respondents with children reported a total of 162 boys and 155 girls. The data in Table IV concern the number of children of the respondents.

TABLE IV
NUMBER OF CHILDREN

Number of Children	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number*	Per Cent**	Number*	Per Cent**
0	18	14.6	13	22.0
1	27	22.0	18	30.5
2	42	34.1	20	33.9
3	28	22.8	4	6.8
4	5	4.0	4	6.8
5	2	1.7	0	.0
6	1	.8	0	.0
Total	123	100.0	59	100.0

* Number of respondents with designated number of children

** Percentage based on total number of respondents of each group

College Experience of Respondents Prior to
Entering North Texas State University

The respondents were asked to indicate their college experience, if any, before entering North Texas State University. The respondents were also asked to indicate what type of college they had attended, whether a junior college or senior college. It was also considered important to know how long they attended the other colleges. As indicated in Table V, 54 of the respondents with the teaching certificate and 32 of the group without the teaching certificate had not attended other colleges prior to entering North Texas State University.

TABLE V

COLLEGE EXPERIENCE OF RESPONDENTS PRIOR TO
ENTERING NORTH TEXAS STATE UNIVERSITY

College Experience	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
Junior College	40	32.5	12	20.3
Senior College	21	17.1	12	20.3
Both Junior & Senior College	8	6.5	3	5.2
None	54	43.9	32	54.2
Total	123	100.0	59	100.0

* Percentage of the total respondents of each group

Sixty-nine, or 56.1 per cent, of the respondents with the teaching certificate had attended either a junior or senior college before enrolling at North Texas State University. Twenty-seven, or 45.8 per cent, of the respondents who did not receive the teaching certificate indicated they had attended either a junior or senior college.

The respondents of both groups indicated the length of attendance at the previously attended colleges ranged from one summer session to four years. However, the greatest number of the respondents who had attended other colleges indicated either one or two years of attendance.

Factors Influencing the Selection of Industrial Arts as the Major Field of Study

The respondents were asked to indicate two factors involved in their selection or choice of industrial arts as the major field of study. They were asked to rate the factors either number one or number two, depending upon the importance of each. The data in Table VI concern the influencing factors and the importance of each factor, as indicated by the respondents of the study.

A large number of both groups of respondents selected "interest in this type of work" as the number one influencing factor involved in the selection of industrial arts as a major field of study. A total of 104, or 84.5 per cent, of those respondents who received the teaching certificate

TABLE VI

FACTORS INFLUENCING THE SELECTION OF INDUSTRIAL ARTS
AS A MAJOR FIELD OF STUDY

Influencing Factor	Respondents								Per Cent**
	With Teaching Certificate				Without Teaching Certificate				
	Number				Number				
	First Choice	Second Choice	Total*	Per Cent**	First Choice	Second Choice	Total*	Per Cent**	
Interest in this type of work	78	26	104	84.5	33	11	46	78.0	
Previous work experience	20	16	36	29.3	9	8	17	28.8	
Industrial arts experience in high school	9	23	32	26.0	4	8	12	20.2	
Advice of a teacher	6	6	12	9.7	6	2	8	13.5	
Advice of a friend	4	12	16	13.0	1	2	3	5.1	
Advice of family	0	3	3	2.4	0	0	0	.0	
Other influence	4	9	13	10.6	6	2	8	13.5	

* Total number of responses by group; some respondents indicated more than two factors

** Percentage based on total respondents of each group

and 46, or 78.0 per cent, of those respondents without the teaching certificate selected the "interest" factor as either the first or second choice. The next most frequently mentioned influencing factor was "previous work experience" followed by "industrial arts experience in high school." The "other influencing factors" mentioned by the respondents included military counseling, guidance and aptitude testing, personal physical conditions, and others. One respondent indicated that he enrolled by mail as a liberal arts major; however, upon arrival to the campus, he found that he was designated as an industrial arts major.

Time at Which Respondents Chose Industrial Arts as a Major Field of Study

It was important to the study to ascertain when the respondents chose industrial arts as their major field of study. As indicated in Table VII, a total of 84, or 68.5 per cent, of the respondents with the teaching certificate, and 41, or 69.5 per cent, of the respondents without the certificate chose industrial arts as their major during either their first or second year in college.

Twenty-three, or 18.5 per cent, of the respondents with the teaching certificate, and 13, or 22.0 per cent, of the respondents without the certificate indicated they made their choice while attending high school. A total of 20 respondents, 16 with the teaching certificate and four

TABLE VII
 TIME AT WHICH RESPONDENTS CHOSE INDUSTRIAL ARTS
 AS A MAJOR FIELD OF STUDY

Time	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
First year in college	45	36.7	20	33.9
Second year in college	39	31.8	21	35.6
High school years	23	18.5	13	22.0
Other	16	13.0	4	6.8
No comment	0	.0	1	1.7
Total	123	100.0	59	100.0

* Percentage of total respondents of each group

without, indicated they made their choice at some "other time." Four of these respondents indicated they decided to major in industrial arts during military service. Five respondents selected industrial arts during the third year in college while one stated he selected industrial arts as a major during his fifth year of college. The remaining 10 respondents failed to report at which "other time" they chose industrial arts as their major.

Work Experience of the Respondents Prior
to Receiving the Bachelor's degree
at North Texas State University

The respondents were asked to indicate if they had worked prior to entering North Texas State University. In order to make a comparison between previous work experience, educational training and the present employment status of the respondents, it was necessary to ask the respondents to identify the types of jobs or positions they had previously held. The data presented in Table VIII indicate that 84, or 68.3 per cent, of the respondents with the teaching certificate, and 43, or 72.9 per cent, of the respondents without the certificate had worked prior to enrolling at North Texas State University.

TABLE VIII

NUMBER OF RESPONDENTS WITH WORK EXPERIENCE PRIOR TO
ENTERING NORTH TEXAS STATE UNIVERSITY

Work Experience	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
Had worked	84	68.3	43	72.9
Had not worked	37	30.1	15	25.4
No reply	2	1.6	1	1.7
Total	123	100.0	59	100.0

* Percentage based on total number of respondents of each group

Thirty-seven, or 30.1 per cent, of the respondents with the teaching certificate, and 15, or 25.4 per cent, of the respondents without the teaching certificate indicated they entered North Texas State University without previous work experience. Three respondents failed to reply to the question concerning work experience.

The types of employment for both groups of respondents were similar in nature. The most frequently mentioned fields of employment were drafting, general carpentry, farming, and military service. Individual employment ranged from postman to aircraft pilot to movie-theater usher.

Both groups of respondents were asked if they worked during their college training. As indicated in Table IX, 101, or 81.4 per cent, of the respondents with the teaching certificate, and 51, or 86.4 per cent, of the respondents without the certificate had worked either part-time or full-time while attending college. A majority of both groups of respondents stated they worked part-time while attending college. Seventeen, or 13.8 per cent, of the respondents who received the teaching certificate, and six, or 10.2 per cent, of the other group stated they worked on a full-time basis while attending college.

The types of jobs held by the respondents while attending college were numerous. The most frequently mentioned type of employment was general service station work, followed by janitorial service work. The other types of employment that

TABLE IX
NUMBER OF RESPONDENTS THAT WORKED
WHILE ATTENDING COLLEGE

Work Experience	Respondents			
	With Teaching Certificate		Without Teaching Certificate	
	Number	Per Cent*	Number	Per Cent*
Part time	75	61.0	40	67.8
Full time	17	13.8	6	10.2
Both full time and part time	9	7.3	5	8.4
None	22	17.9	8	13.6
Total	123	100.0	59	100.0

* Percentage based on total number of respondents of each group

were mentioned included; general carpentry, welding, mechanic, drafting, machinist, printing, and others. An unusual job mentioned was that of "curtain installer."

This chapter was devoted to presenting data relative to basic characteristics of the respondents. The data were presented in an attempt to determine the relationship between these characteristics and the status of employment of the respondents. Data presented include: age distribution, marital status, family size, educational experience prior to entering North Texas State University, factors influencing the selection of industrial arts as a major field of study,

and work experience of the respondents prior to and during attendance at North Texas State University.

CHAPTER III

FACTORS RELATIVE TO THE EMPLOYMENT STATUS AND WORK EXPERIENCES OF THE RESPONDENTS WHO RECEIVED A TEACHING CERTIFICATE UPON GRADUATION FROM NORTH TEXAS STATE UNIVERSITY

A purpose of this study was to identify and compare the employment status and work experiences of 1956 through 1965 industrial arts graduates of North Texas State University. Questionnaires completed and returned by the respondents of this study furnished data relative to the employment status and experiences of the graduates. Data presented in this chapter include: methods of entry into initial areas of employment, beginning salaries and areas of employment, current employment status and salaries of the respondents, factors relating to employment changes, promotions received, and future employment plans. Specific data are presented relative to respondents who were or had been employed in fields unrelated to that of education. Opinions concerning the value and importance of industrial work experience relative to respondents who were employed in the field of education are also presented in this chapter.

Sources of Information Leading to
Initial Areas of Employment

It was considered important to know what means were employed by respondents of this study in securing employment immediately following graduation. As indicated in Table X, 52, or 42.3 per cent, of the respondents stated they secured their first job following graduation through personal efforts and interviews off campus.

TABLE X
SOURCES OF INFORMATION LEADING TO
INITIAL AREAS OF EMPLOYMENT

Sources	Respondents	
	Number	Per Cent*
Personal interviews off campus	52	42.3
Placement office at N.T.S.U.	22	17.9
Interviews on campus	20	16.3
Help from faculty member	9	7.2
Help from family or friends	8	6.5
Other methods	12	9.8
Total	123	100.0

* Percentages based on 123 respondents

A total of 51, or 41.5 per cent, of the respondents attributed their first employment to the effort of some function of North Texas State University. The "other" methods of securing employment mentioned by the respondents included advertisements in placement magazines, newspaper

advertisements, military placement, and an extension of duties with a previous employer. Eight, or 6.5 per cent, of the respondents were found to have secured employment through the help of a friend or some member of the family.

Initial Areas of Employment

The respondents were asked to indicate the types of employment they entered immediately following graduation from North Texas State University. It was determined that 64, or 52.1 per cent, of the respondents secured educational employment following graduation. Two of the respondents chose educational therapy as an area of employment, while the remaining 62 respondents assumed teaching duties in their chosen field of industrial arts.

As indicated in Table XI, 43, or 34.9 per cent, of the respondents entered industrial or business employment immediately following graduation.

TABLE XI
TYPES OF BEGINNING EMPLOYMENT ENTERED
BY THE RESPONDENTS

Type of Employment	Respondents			
	Number	Total	%*	Total
Educational				
Industrial Arts Teacher	62		50.5	
Therapist	2		1.6	
Total		64		52.1

TABLE XI--Continued

Type of Employment	Respondents			
	Number	Total	%*	Total
Industrial or business				
Draftsman	10		8.0	
Banker	3		2.4	
Clerical Office Worker	3		2.4	
Cost Estimator	2		1.6	
Retail Store Manager, Trainee	2		1.6	
Technical Illustrator	2		1.6	
Airline Pilot	1		.8	
Boat Repairman	1		.8	
Bookbinder	1		.8	
Building Contractor	1		.8	
Credit Collector	1		.8	
Design Engineer	1		.8	
Helicopter Service Employee	1		.8	
Industrial Engineer	1		.8	
Labor Relations Analyst	1		.8	
Management Trainee	1		.8	
Newspaper Employee	1		.8	
Pipe Line Construction Worker	1		.8	
Railroad Transportation Analyst	1		.8	
Sales Estimator	1		.8	
Salesman	1		.8	
Tool Planner	1		.8	
Truck Driver	1		.8	
Welder	1		.8	
Total		43		34.9
Military				
U. S. Air Force	6		4.9	
U. S. Navy	3		2.4	
U. S. Army	2		1.6	
Total		11		8.9
Self Employed				
Insurance and Real Estate Broker	1		.8	
Engineering Consultant	1		.8	
Total		2		1.6

TABLE XI--Continued

Type of Employment	Respondents			
	Number	Total	%*	Total
No Comment		3		2.5
Total		123		100.0

* Percentage based on 123 respondents

The most frequently indicated area of industrial employment entered by the respondents was that of drafting. The next most frequently mentioned industrial areas of employment were banking, clerical office, cost estimating, retail store management, and technical illustrating. The remaining industrial areas of employment entered by the respondents varied from airline piloting to newspaper work to welding.

Eleven, or 8.9 per cent, of the respondents indicated they entered military service immediately following graduation from North Texas State University. Six of the respondents chose to enter the U. S. Air Force, three entered the U. S. Navy and two respondents assumed duties with the U. S. Army following graduation.

Two, or 1.6 per cent, of the respondents who received the teaching certificate upon graduation, entered private or self employment upon graduation. One respondent entered the real estate and insurance business, while the other organized an engineering consulting firm.

Factors Influencing the Respondents to Enter
Noneducational Employment

It was found that only 64, or 52.1 per cent, of the qualified respondents secured educational employment following graduation. Therefore, it was considered important to know what caused the remaining respondents to select or enter noneducational employment.

The influencing factor mentioned most often by the respondents was that of salaries. As indicated in Table XXI,

TABLE XII
FACTORS INFLUENCING THE RESPONDENTS TO ENTER
NONEDUCATIONAL EMPLOYMENT

Factors	Respondents	
	Number*	Per Cent**
Salaries elsewhere were more attractive	30	53.6
Better chance for advancement in other fields	16	28.6
Could not find employment in teaching field	8	14.3
Dislike for teaching	8	14.3
Other employment offered more security	5	8.9
Better working conditions in other employment	2	3.6
Other factors	6	10.7
No comment	2	3.6

* Some respondents indicated more than one factor

** Percentages are based on the 56 respondents who did not enter educational employment following graduation

30, or 53.6 per cent, of the respondents selected the factor concerning salaries as the principal reason for not entering teaching or educational employment following graduation. Sixteen, or 28.6 per cent, of the respondents indicated they selected noneducational employment because of the feeling there were better chances for advancement in those fields. Eight respondents indicated that teaching employment was not available at the time of graduation. An additional eight respondents indicated a dislike for teaching after completing the requirements for the teaching certificate.

Beginning Annual Salaries of the Respondents from
1956 through 1965

The information supplied by the respondents of this study furnished data relative to their wage-earning abilities. For the purpose of this study, the respondents' salaries were grouped according to the fields of employment, the salary range, and the beginning years of employment. All salaries reported by the respondents were compiled and compared, even though many of the teaching salaries reported only nine or 10 months of employment.

The average beginning salary of the respondents who secured educational employment following graduation was \$4,610. The individual beginning salaries of this group ranged from \$2,800 to \$7,600. The average beginning salary for the respondents who secured industrial employment following graduation was \$5,196. The individual beginning

TABLE XIII

BEGINNING ANNUAL SALARIES OF THE RESPONDENTS BY
YEAR OF GRADUATION AND FIELD OF EMPLOYMENT

Employment Field and Salary Range	Year of Employment										Respondents	
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*
Educational												
\$2,000-2,999	1	..	..	..	..	..	..	..	..	..	1	.8
3,000-3,999	2	3	1	1	..	..	..	..	2	..	9	7.2
4,000-4,999	1	1	2	..	3	1	2	4	5	2	21	16.8
5,000-5,999	..	..	..	..	1	1	1	..	2	3	8	6.4
6,000-6,999	..	..	..	..	..	..	..	..	..	1	1	.8
No Comment	2	..	4	5	2	2	4	..	3	2	24	19.2
Industrial or Business												
\$2,000-2,999	..	..	2	..	..	1	..	..	..	..	3	2.4
3,000-3,999	1	..	1	1	..	..	..	1	1	..	5	4.0
4,000-4,999	2	..	1	1	..	1	1	..	..	..	6	4.8
5,000-5,999	..	2	1	..	..	1	2	..	..	..	6	4.8
6,000-6,999	..	1	1	1	1	..	1	..	..	1	6	4.8
7,000-7,999	..	..	..	1	..	..	..	..	1	1	3	2.4
10,000-10,999	..	..	..	1	..	..	..	..	..	1	2	1.6
No Comment	..	2	3	1	1	2	1	1	1	..	12	9.6
Military												
\$7,000-7,999	1	..	..	..	..	..	..	..	..	..	1	.8
No Comment	2	1	1	1	1	..	1	..	1	2	10	8.0
Self Employed												
No Comment	..	..	..	..	1	..	..	..	1	..	2	1.6
Did not specify employ- ment or salary	..	..	..	..	1	1	..	..	1	..	3	2.4
Total	12	10	17	13	11	10	13	6	18	13	123	100.0

* Percentage based on 123 respondents

salaries of the noneducational employed group ranged from \$2,800 to \$10,000. Most of these respondents indicated a beginning salary of between \$4,000 and \$6,000.

Many of the respondents who entered military and self employment following graduation failed to respond to the question concerning beginning salaries. Only one respondent who entered military employment reported a beginning salary. This respondent reported a beginning salary of \$7,000. Neither of the two respondents that entered self employment indicated beginning annual earnings.

Current Employment Status of the Respondents

The data in Table XIV pertain to the current occupations of the respondents of this study. As indicated in Table XIV, 56, or 45.5 per cent, of the respondents were employed in some form of educational employment. The largest number of these respondents were teaching in their chosen field of industrial arts. The remaining respondents of this group were employed in various fields of education. The individual occupations ranged from college industrial arts instructor to state education consultant.

At the time of this study, 53, or 43.1 per cent, of the respondents were employed in industrial and business fields. The positions or job titles held by the graduates varied and were often of the supervisory nature. The greatest number of respondents grouped under one specific field were

TABLE XIV
CURRENT EMPLOYMENT STATUS OF THE RESPONDENTS

Occupations	Respondents			
	Number	Total	%*	Total
Educational				
Industrial Arts Teacher (Public School)	37		30.3	
Industrial Arts Instructor (College)	3		2.4	
Industrial Education Instructor (College)	3		2.4	
Counselor for the men- tally retarded	1		.8	
County School Superin- tendent	1		.8	
Director of Adolescent Education (Psychiatric)	1		.8	
Distributive Education Teacher (D. E.)	1		.8	
Elementary School Princi- pal	1		.8	
History Teacher (Public School)	1		.8	
Industrial Arts Fellowship Instructor (College)	1		.8	
Industrial Cooperative Training Coordinator (I. C. T.)	1		.8	
Industrial Education Department Chairman (Junior College)	1		.8	
Instructor, Civil Service Junior High School	1		.8	
Psychology Instructor (College)	1		.8	
State Consultant, Texas Education, Veterans Education	1		.8	
Total		56		45.5

TABLE XIV--Continued

Occupations	Respondents			
	Number	Total	%*	Total
Industrial or Business				
Banking Employee	3		2.4	
Design Engineer	3		2.4	
Design Draftsman	2		1.6	
Factory Representative	2		1.6	
Industrial Engineer	2		1.6	
Quality Control Engineer	2		1.6	
Airline Pilot	1		.8	
Area Sales Engineer	1		.8	
Bakery Salesman	1		.8	
Contract Administrator	1		.8	
Coordinator of Sub- contract or Require- ments	1		.8	
Customer Contract Representative	1		.8	
Designer (Electrical and Mechanical Equipment)	1		.8	
Director of Purchasing Department	1		.8	
District Sales Manager	1		.8	
Drafting Supervisor	1		.8	
Electronics Technical Advisor	1		.8	
Equipment Supervisor	1		.8	
Estimator and Engineer- ing Supervisor	1		.8	
Fabrication Foreman	1		.8	
Facilities Draftsman	1		.8	
Fluid Pump Specialist	1		.8	
General Machinist	1		.8	
Industrial Engineering Supervisor	1		.8	
Industrial Technician (Civil Service)	1		.8	
Industrial Training Dir- ector and Coordinator of Professional Employ- ment	1		.8	
Insurance Claim Rep- resentative	1		.8	

TABLE XIV--Continued

Occupations	Respondents			
	Number	Total	%*	Total
Industrial (Continued)				
Insurance Property Claim Supervisor	1		.8	
Insurance Safety Engineer	1		.8	
Inventory and Purchase Supply Clerk	1		.8	
Layout Engineer (Space Utilization and Planning)	1		.8	
Lead Engineer (Liason Engineering Group)	1		.8	
Leadman over Engineering Draftsmen	1		.8	
Life Insurance Salesman	1		.8	
Machine Tool Salesman	1		.8	
Photographer and Writer	1		.8	
Purchasing Agent	1		.8	
Safety Compliance Engineer	1		.8	
Sales Manager (Metal Buildings)	1		.8	
Sales Representative	1		.8	
Service Station Designer	1		.8	
Superintendent of Building Construction (Homes)	1		.8	
Supervisor of Apartment Maintenance Crew	1		.8	
Test Leader for Engineering Laboratory	1		.8	
Total		53		43.1
Military				
Naval Aviator	2		1.6	
Air Force Pilot	1		.8	
Disaster Preparedness Officer, U. S. A. F.	1		.8	
Marine Recruiter	1		.8	
Officer, U. S. A. F.	1		.8	
Supply Officer, U. S. A. F.	1		.8	
Total		7		5.6

TABLE XIV--Continued

Occupations	Respondents			
	Number	Total	%*	Total
Self Employment				
Commercial Helicopter Service Contractor	1		.8	
Consulting Engineer	1		.8	
Electrical Wire Harness Contractor	1		.8	
Farmer	1		.8	
Lake Resort Owner	1		.8	
Real Estate and Insurance Broker	1		.8	
Upholstery Shop Owner	1		.8	
Total		7		5.6
Total		123		100.0

* Percentage based on 123 respondents

employed in various areas of engineering. The two next most frequently mentioned areas were drafting and design. Six respondents reported they were employed in the various areas of design and four reported they were employed in drafting.

Seven, or 5.6 per cent, of the respondents had secured military employment in various branches of the U. S. Armed Services. Four of the respondents were serving in the U. S. Air Force, two were serving as Naval Aviators, and one was a Marine Recruiter.

An additional seven respondents were self employed. The business interests of this group ranged from contract helicopter owner to farmer to upholstery shop owner.

Additional information was sought from the respondents who were employed in the field of education. The respondents were asked if they were involved in any additional employment other than their full-time educational responsibilities. Many respondents stated they did have part-time employment, as indicated in Table XV.

TABLE XV
PART-TIME EMPLOYMENT HELD BY RESPONDENTS

Type of Employment	Number of Respondents
Carpentry Work	7
Drafting	4
Drive School Bus	4
Farming and Ranch Work	2
Painting and House Repairing	2
Teach Driver Education after School	2
Demonstrate Power Tools	1
Electrical Sales Work	1
Inventory Service Work	1
Janitorial Service Work	1
Manage Rental Property	1
Perform Industrial Time and Motion Studies	1
Repair Electronic Equipment	1
Supervise Adult Night School	1
Teach Adult Education Night Classes	1
Tool Sharpening Service	1
Welding Service	1
Total	32

Thirty-two respondents reported they had part-time employment. The part-time employment ranged from various aspects of carpentry work to welding. The most frequently mentioned part-time employment involved some form of wood-working or carpentry work. Seven respondents indicated

part-time employment of this nature. The second most frequently mentioned type of part-time employment involved work in the area of drafting. Four of the respondents indicated they did drafting work on a part-time basis; four other respondents stated they drove school buses. Other types of part-time employment included farming and ranch work, sales work, tool sharpening, and others.

Current Salaries of the Respondents

The data presented in Table XVI compare the current annual salaries of the respondents who received the teaching certificate upon graduation. The salaries were compared by year of graduation, the current field of employment, and the annual salary range.

TABLE XVI
ANNUAL SALARIES OF RESPONDENTS BY YEAR OF
GRADUATION AND FIELD OF EMPLOYMENT

Employment Field and Salary Range	Year of Graduation										Respondents	
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*
Educational												
\$3,000-3,999	.	.	.	.	.	.	.	.	.	1	1	.8
5,000-5,999	1	.	.	.	.	.	.	.	1	2	4	3.2
6,000-6,999	.	.	2	1	.	1	2	2	2	2	12	9.8
7,000-7,999	.	.	.	2	2	2	.	.	1	.	7	5.7
8,000-8,999	.	1	.	.	1	1	1	1	1	.	6	4.9
9,000-9,999	.	.	.	.	.	.	1	.	1	.	2	1.6
10,000-10,999	.	.	1	2	.	.	.	.	1	.	4	3.2
12,000-12,999	1	.	1	.	.	.	.	.	.	.	2	1.6
No Comment	2	1	3	2	3	1	1	1	2	2	18	14.6

TABLE XVI--Continued

Employment Field and Salary Range	Year of Graduation										Respondents	
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*
Industrial or Business												
\$6,000-6,999	.	.	1	.	.	.	.	.	.	.	1	.8
7,000-7,999	1	1	.	.	.	.	.	.	1	.	3	2.4
8,000-8,999	.	1	.	.	.	.	1	.	2	.	4	3.2
9,000-9,999	.	.	1	.	1	.	.	1	2	1	6	4.9
10,000-10,999	.	.	.	.	.	.	1	.	.	1	2	1.6
11,000-11,999	.	1	1	.	1	1	1	.	.	.	5	5.1
12,000-12,999	2	2	1	1	1	.	.	1	.	.	9	7.3
13,000-13,999	1	.	.	1	.	.	1	.	.	1	3	2.4
14,000-14,999	.	.	.	.	.	1	.	.	.	.	1	.8
15,000-15,999	1	.	.	1	.	.	.	.	1	.	3	2.4
16,000-16,999	1	.	.	.	.	.	.	.	.	.	1	.8
No Comment	2	1	3	.	1	3	3	.	2	.	15	12.2
Military												
\$11,000-11,999	.	.	1	.	.	.	1	.	.	.	2	1.6
12,000-12,999	.	.	.	.	.	.	.	.	.	1	1	.8
14,000-14,999	.	1	1	.	.	.	.	.	.	.	2	1.6
No Comment	.	1	.	.	.	.	.	.	.	1	2	1.6
Self Employed												
\$10,000-10,999	.	.	.	1	.	.	.	.	.	.	1	.8
20,000-20,999	.	.	.	1	.	.	.	.	.	.	1	.8
23,000-23,999	.	.	.	1	.	.	.	.	.	.	1	.8
25,000-25,999	.	.	.	.	1	.	.	.	.	.	1	.8
No Comment	.	.	1	.	.	.	.	.	1	1	3	2.4
Total	12	10	17	13	11	10	13	6	18	13	123	100.0

* Percentage based on 123 respondents

The individual salaries of the respondents who indicated they were employed in the field of education ranged from a low of \$3,500 to a high of \$12,157. The lowest salary was that of a university fellowship teacher who was

working on an advanced degree. The average annual salary of these respondents was approximately \$7,607. The low salary of \$3,500 was excluded when computing the average salary because it was not representative of full-time employment.

The salaries of respondents employed in fields outside that of education proved to be higher than those who were employed in educational fields. The average annual salary of the respondents who were engaged in industrial or business employment was \$10,988. Individual salaries of this group ranged from a low of \$6,000 to a high of \$16,000. The salaries of the respondents engaged in military employment ranged from \$11,000 to \$14,600. The average annual salary of these respondents was \$12,250. Annual earnings reported by the self employed respondents ranged from \$10,400 to \$25,000, with an average for this group of \$19,350.

Factors Relating to Employment Changes

The respondents were asked to list all of their employment experiences beginning with their first employment after graduation. Data in Table XVII pertaining to the number of positions held by the respondents are presented by year of graduation and number of employment positions held.

The number of positions held by the respondents ranged from one to five, with 80, or 65.1 per cent, having held not more than one or two different positions. The 120

respondents who reported their employment experiences had held an average of 2.2 positions since graduation.

TABLE XVII
NUMBER OF POSITIONS HELD BY THE RESPONDENTS
BY YEAR OF GRADUATION

Number of Positions	Respondents										Total	
	Year of Graduation											
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*
1	2	1	6	4	6	2	4	2	4	5	36	29.3
2	3	4	3	6	4	6	3	4	8	5	44	35.8
3	4	2	5	2	1	0	3	0	5	4	26	21.2
4	1	3	3	1	0	0	2	0	1	0	11	8.9
5	2	0	0	0	0	1	0	0	0	0	3	2.4
No Response	0	0	0	0	0	1	1	0	0	1	3	2.4
Total	12	10	17	13	11	10	13	6	18	13	123	100.0

* Percentage based on 123 respondents

The types of employment changes made by the respondents are presented in Table XVIII. Each change reported by the respondents was tabulated in order of occurrence and presented according to the type of change made.

The most frequently mentioned employment change was that of the respondents moving from one industrial related job to another. Forty-five, or 36.6 per cent, of the respondents indicated an employment change of this nature. The next most frequently indicated type of employment change was that involving a change from one educational position to

another. A larger percentage of the respondents had changed from educational positions to industrial positions than had changed from industrial to educational positions. All of the respondents who left military employment entered industrial employment upon return to civilian life. The changes made by the respondents to military employment were counted only if the change was made by personal choice. If the respondents were inducted without choice from their employment, this was not considered an employment change.

TABLE XVIII
TYPE AND FREQUENCY OF EMPLOYMENT CHANGES

Type of Employment or Job Change	Frequency of Change	
	Number*	Per Cent**
From Industry to Industry	45	36.6
From Education to Education	40	32.5
From Education to Industry	22	17.9
From Industry to Education	13	10.6
From Military to Industry	6	4.9
From Industry to Self Employment	3	2.4
From Education to Self Employment	3	2.4
From Industry to Military	2	1.6
From Education to Military	1	.8
From Self Employment to Industry	1	.8

* Many of the respondents made more than one change

** Percentage based on 123 respondents

The reasons given by the respondents for making employment changes varied considerably; however, the most frequently mentioned reasons were those of more attractive salaries and promotions connected with other employment. The most frequently indicated reasons given by the respondents for leaving educational employment were those concerning salaries and lack of advancement possibilities within the field of education. The principal reason given by the respondents for returning to or entering educational employment was the feeling that they were generally better prepared for teaching.

As indicated in Table XVIII, 26 respondents changed from educational employment to either industrial, military, or self employment. It is interesting to note the number of years in education before changing to other employment fields. Table XIX indicates the length of experience ranged from one to 10 years.

TABLE XIX

YEARS OF TEACHING EXPERIENCE ACQUIRED BY RESPONDENTS PRIOR TO LEAVING THE EDUCATIONAL FIELD OF EMPLOYMENT

Years	Number of Respondents
1	4
2	6
3	3
4	2
5	4
6	2
7	0
8	3
9	1
10	1

Nineteen, or 73.1 per cent, of the 26 respondents who left educational employment did so after from one to five years of teaching experience. Two respondents left after six years, three after eight years, and one each after nine and 10 years in teaching. The average teaching experience for this group was 3.7 years.

Many of the respondents indicated that a chance for promotion compelled them to make employment changes; therefore, the respondents were asked to indicate the type of promotion they had received since graduation. As indicated in Table XX, many of the respondents had received promotions.

TABLE XX
PROMOTIONS RECEIVED BY THE RESPONDENTS

Type of Promotion	Respondents	
	Number	Per Cent*
Job promotion and salary advancement	74	60.2
Salary advancement	37	30.1
None	7	5.7
Salary decrease	2	1.6
No response	3	2.4
Total	123	100.0

* Percentage based on 123 respondents

Seventy-four, or 60.2 per cent, of the respondents indicated they had received both salary increases and job

promotions since their employment after graduation. Thirty-seven respondents indicated they had received some salary advancement. Seven of the respondents indicated they had not been promoted in any way. Two respondents indicated their salaries had decreased upon changing from industrial employment to teaching. Three respondents failed to answer the question. Many of the respondents reported they were employed for one to three years before receiving a promotion. The respondents indicated the time between initial employment and their first promotion ranged from six weeks to 10 years. The average time worked by the group before their first promotion was 1.3 years.

Future Employment Plans of the Respondents

It was considered important to know about the future employment plans of the respondents. The graduates were asked if they planned to continue their present employment. Table XXI presents data pertaining to the future employment plans of the respondents.

Ninety-five, or 77.2 per cent, of the respondents indicated they planned to continue their present employment. Five respondents stated they were planning to change employment while 23 were undecided about their future.

The respondents who were anticipating a change in employment were asked to indicate the reason for wanting to make a change. Many of the respondents indicated the reasons

for wanting to change were attributed to the belief that better opportunities and higher salaries existed elsewhere.

TABLE XXI
FUTURE EMPLOYMENT PLANS OF THE RESPONDENTS
WHO SECURED TEACHING CERTIFICATES

Employment Plans	Respondents	
	Number	Per Cent*
Continue present employment	95	77.2
Change employment	5	4.1
Undecided	23	18.7
Total	123	100.0

* Percentage based on 123 respondents

The respondents were asked to indicate what employment fields they were considering if they were planning a change. Data in Table XXII pertain to changes in employment under consideration.

Fifteen of the respondents indicated they were seeking industrial employment. All of these respondents were employed as industrial arts teachers and gave various reasons for wanting to change to industrial fields of employment. Seven respondents indicated they wanted to enter or re-enter teaching employment. Five respondents hoped to enter self employment and three were yet undecided about their plans.

TABLE XXII
CONSIDERED EMPLOYMENT CHANGES

Changes in Employment Under Consideration	Number of Respondents Considering Changes
To industrial employment	15
To teaching employment	7
Other	5
Undecided	3

Value of Employment Experience Outside the
Field of Major Preparation

Due to the close association between the concepts of industry and industrial arts, an attempt was made to determine, in the opinion of the respondents, the value of work experience in industrial fields of employment. The respondents were asked if they thought industrial employment experience was important to the industrial arts teacher. One hundred twelve, or 91.1 per cent, of the respondents indicated it was important while nine respondents indicated it was not important. Two respondents failed to reply to the question.

The respondents were asked to indicate their reasons for feeling that industrial employment experience would be important to the teacher. The reasons given by the respondents varied, but most agreed that the experience would provide a firm foundation for practical classroom applications. The data presented in Table XXIII pertain to the degree of importance of industrial employment experience as was indicated by the respondents.

TABLE XXIII
DEGREE OF IMPORTANCE OF INDUSTRIAL
EMPLOYMENT EXPERIENCE

Degree of Importance	Respondents	
	Number	Per Cent*
Helpful but not necessarily important	53	43.1
Should be required for teaching industrial arts	42	34.2
Helpful and important but not a necessity	17	13.8
Not necessary for teaching industrial arts	9	7.3
No response	2	1.6
Total	123	100.0

* Percentage based on 123 respondents

The majority of the respondents indicated that industrial employment experiences would be of value to the industrial arts teacher. However, it should be noted that many of the respondents had not been employed as teachers. It should also be noted that 21.0 per cent of the respondents who were employed as teachers had not had industrial or business experience since graduating from North Texas State University.

Respondents who were employed in educational fields were asked if there were any specific industrial experiences which would be advantageous to them in performing their teaching duties. Many of the respondents indicated some

form of employment that would be beneficial to them, particularly those within the various trade fields. Some of those that were listed included auto mechanics, carpentry, commercial printing, drafting, electronics, fluid systems, and welding. Other useful experiences listed and of a more general nature was the opportunity to gain knowledge of new processes, tools and materials.

Factors Relating to the Types and Sizes of Firms
With Whom the Respondents Were or Had Been
Employed and the Nature of the Employment
of the Respondents

In completing the questionnaire form used in this study, many of the respondents stated they had had employment experiences outside the field of education. The respondents were asked to list their former employers and supply descriptive information concerning the type and size of business of each. The types of businesses listed by the respondents represented many of the various business and industrial trade fields. Table XXIV presents data relative to the types of businesses indicated and the number of respondents who had been employed in each.

The most popular fields of business and industry selected by the respondents were those of aerospace and aircraft manufacturing and electronic communication system manufacturing. Twenty respondents each indicated they had been employed in fields of this nature. The other fields mentioned by the

TABLE XXIV
 TYPES OF BUSINESS AND INDUSTRIAL FIELDS

Field	Number of Respondents
Aerospace and Aircraft Manufacturing	20
Electronic Communication Systems	20
Insurance	7
General Structural Construction	6
Metals Manufacturing	6
General Woodworking	5
Transportation	5
Banking	4
Crude Oil Production	4
Oil Well Servicing	4
Industrial Pipe Manufacturing	3
Manufacturing of Precision Cutting Tools and Instruments	3
Automobile Manufacturing	2
Graphic Arts Production	2
Machine Equipment Sales	2
Production and Distribution of Leather Products	2
Chemical Processing	1
Climatic Control Equipment Manufacturing	1
Heavy Equipment Manufacturing	1
Law Enforcement	1
Military Munition Manufacturing	1
News Publications	1
Public Utilities	1
Upholstering Materials and Service	1
Wood and Wood Products Manufacturing	1

respondents ranged from insurance to wood and wood products manufacturing.

The majority of the business and industrial fields mentioned were of the large corporation size. However, a few of the respondents indicated they had been employed in smaller job shop activities.

The nature of the employment and responsibilities of the respondents pertained in most cases to the engineering of the mentioned products. The respondents indicated they were responsible for design, drafting, and support to engineers and manufacturing.

Factors Relative to the Education Received at North Texas State University

It was considered important to know what value the industrial arts courses taken at North Texas State University were to the employment status of the respondents of this study. The respondents were asked to indicate the areas of industrial arts that were of most importance to them in their employment. Table XXV presents data relative to the areas of industrial arts that were considered important by the respondents.

Drafting, metalworking, and woodworking were the most frequently indicated areas of industrial arts. Seventy-two responded that drafting was most important to them, 47 indicated metalwork, while 33 stated woodworking was important to their field of employment. Fourteen graduates indicated

that none of the areas of industrial arts training were important to their employment. It should be noted that a majority of these respondents were employed in fields unrelated to education. Other respondents indicated the importance of general knowledge gained through their industrial arts education. The respondents indicated that a thorough knowledge of shop management, job descriptions, materials management, and methods of teaching were of value to them in performing the duties of their employment.

TABLE XXV

AREAS OF INDUSTRIAL ARTS CONSIDERED MOST IMPORTANT
TO THE RESPONDENTS BY FREQUENCY OF RESPONSE

Areas of Most Importance	Responses*
Drafting	72
Metalwork	47
Woodwork	17
Electricity and Electronics	17
Plastics	11
Power Mechanics	8
Crafts	3
Graphic Arts	3
None Important	14
All Important	8
No Comment	6

* Many responded to more than one area

The graduates were asked if they had problems adjusting to the conditions of their employment which reflected lack of preparation in their major field of study. The purpose of the question was to identify areas in which respondents were inadequately trained. A total of 21, or 17.1 per cent,

of the respondents indicated a problem of some nature. The problems encountered by the respondents varied with each individual. Some of the problems mentioned by the respondents included weakness in organizational abilities, lesson planning, improvising abilities, and practical experiences. The others indicated a need for additional training in specific areas which included student teaching, drafting, electricity, and related areas of mathematics and physics. One respondent who entered industrial employment indicated his problem pertained to the fact that he was not trained for a specialized area of work.

Factors Relative to Additional Formal Education Received by the Respondents

The respondents were asked if they had acquired other degrees since receiving the Bachelor of Science degree at North Texas State University. It was believed the employment experiences of the respondents might have influenced them to secure additional education. The data presented in Table XXVI indicate that 39, or 31.7 per cent, of the respondents had secured advanced degrees.

A majority of these respondents had received a Master of Education degree with a major in either industrial arts or secondary education. Three indicated they had received Master of Science degrees, two of which were in industrial education and one in industrial arts.

TABLE XXVI
ADVANCED DEGREES EARNED BY THE RESPONDENTS

Degree and Field of Study	Number of Recipients
Master of Education	
Industrial Arts	18
Secondary Education	11
Secondary School Supervision	4
Counseling and Guidance	2
Elementary School Supervision	1
Master of Science	
Industrial Education	2
Industrial Arts	1
Total	39

The respondents were also asked if they were presently working on advanced degrees. Twenty-eight responded affirmatively. Four respondents who had received master's degrees indicated they were actively engaged in doctoral programs. The remaining 24 respondents indicated they were seeking master's degrees. The fields of study mentioned by the respondents included secondary education, industrial arts, guidance and counseling, and industrial education. Others indicated they were seeking master's degrees in the fields of mathematics, science, and business management.

It was also of interest to know what the respondents' future plans were toward additional education. They were asked if they planned to begin work toward an advanced degree if they were not presently doing so. Seventeen, or 13.8 per cent, indicated they had plans to begin work toward a

degree, while 36, or 29.2 per cent, of those responding were yet undecided about their future educational plans. Twenty-eight had previously indicated they were working on a degree, while 42 stated they did not plan to work on a degree of any type.

Chapter III has been concerned with factors relative to the employment status and employment experiences of the respondents to this study who received the teaching certificate upon graduation from North Texas State University. The data presented in this chapter include: sources of information leading to initial employment, beginning salaries and areas of employment, current employment status and salaries of the respondents, factors relating to employment changes, promotions received, and future employment plans. Specific data were presented relative to the respondents who had been employed in fields unrelated to that of education. These include the type and size of the firms with whom the respondents have been employed and the nature of the employment. Information was also sought concerning the value and importance of industrial work experience relative to the respondents who were employed in the field of education. Additional data were presented relative to the education received at North Texas State University and the significance of additional education.

CHAPTER IV

FACTORS RELATIVE TO THE EMPLOYMENT STATUS AND WORK EXPERIENCES OF THE RESPONDENTS OF THIS STUDY WHO DID NOT RECEIVE A TEACHING CERTIFICATE UPON GRADUATION FROM NORTH TEXAS STATE UNIVERSITY

Chapter IV presents data relative to respondents of this study who did not secure the teaching certificate upon graduation. Since the respondents did not secure the teaching certificate, it seems natural to assume they planned to secure employment in some field other than education. Data presented in this chapter identify factors relative to the employment status and work experiences of respondents of this study. The data presented include: sources of information leading to initial employment after graduation from college, beginning salaries and areas of employment, current salaries and employment status of respondents, factors relating to employment changes, promotions received, and future employment plans. Additional data presented include: types and sizes of firms with whom the respondents were or had been employed, significance of education received at North Texas State University, and value of additional education.

Sources of Information Leading to Initial
Areas of Employment

Table XXVII presents data relative to the sources of information leading to the respondents' initial employment following graduation.

TABLE XXVII
SOURCES OF INFORMATION LEADING TO INITIAL
AREAS OF EMPLOYMENT

Sources	Respondents	
	Number	Per Cent*
Personal interviews off campus	24	40.7
Help from family or friends	11	18.6
Interviews on campus	4	6.8
Help from faculty member	1	1.7
Placement office at N.T.S.U.	1	1.7
Other methods	17	28.8
No comment	1	1.7
Total	59	100.0

* Percentage is based on 59 respondents

Twenty-four, or 40.7 per cent, of the respondents indicated they secured their initial employment as a result of personal interviews off campus. Eleven respondents stated they secured employment with the help of their family or friends. It is interesting to note that only six of the group indicated that employment was gained through some source related to the university. Four indicated interviews

on campus led to initial employment, while one each stated employment was gained through the assistance of a faculty member or through the efforts of the Placement Office. The "other" sources of employment mentioned by the respondents indicated that a large portion of the group turned to private employment agencies for assistance in securing employment following graduation.

Initial Areas of Employment Entered by the Respondents

During the process of this study it was necessary to assume that the industrial arts graduates who chose not to secure the teaching certificate upon graduation from college would enter employment in some field unrelated to the field of education. However, it was assumed the graduates would enter into employment related to the educational training received at North Texas State University. The respondents were asked to indicate types of employment entered immediately following graduation. The tabulated data presented in Table XXVIII indicate that five respondents chose to enter educational employment, while one respondent continued his education in the field of engineering. The reasons given by the respondents for entering educational employment ranged from, "satisfying a plea for a teacher" to "accepting the only available employment."

Forty-one, or 69.4 per cent, of the respondents selected either industrial or business employment upon graduation.

The most frequently mentioned type of beginning industrial or business employment was that involving drafting. Sixteen, or 27.2 per cent, of the respondents stated they secured drafting jobs following graduation. The other industrial or business employment mentioned by the respondents ranged from saleswork to job shop welding.

TABLE XXVIII
TYPES OF BEGINNING EMPLOYMENT ENTERED
BY THE RESPONDENTS

Types of Beginning Employment	Respondents			
	Number	Total	%*	Total
Educational				
Industrial Arts Teacher	4		6.8	
Student (Engineering)	1		1.7	
Technical Education				
Coordinator	1		1.7	
Total		6		10.2
Industrial or Business				
Draftsman	16		27.2	
Salesman	4		6.8	
Building Contractor	2		3.4	
Construction Worker	2		3.4	
Designer and Estimator	2		3.4	
Auto Parts Manager	1		1.7	
Banker	1		1.7	
Buyer	1		1.7	
Dispatcher	1		1.7	
Engineering Aide	1		1.7	
Flight Line Maintenance				
Supervisor	1		1.7	
Industrial Engineer	1		1.7	
Installation and Main-				
tenance Supervisor	1		1.7	
Insurance Inspector	1		1.7	
Logistics Assistant				
(Civil Service)	1		1.7	

TABLE XXVIII--Continued

Types of Beginning Employment	Respondents			
	Number	Total	%*	Total
Industrial (Continued)				
Manufacturing Plant				
Employee (Commercial				
Gins)	1		1.7	
Technical Illustrator	1		1.7	
Technician	1		1.7	
Warehouseman	1		1.7	
Welder	1		1.7	
Total		41		69.4
Military				
Texas Air National Guard	2		3.4	
U. S. Air Force	1		1.7	
U. S. Army Officer	1		1.7	
U. S. Army Pilot	1		1.7	
U. S. Marine	1		1.7	
U. S. Navy Pilot	1		1.7	
Total		7		11.9
Self Employed				
Automotive Repair Shop				
Owner	1		1.7	
Automotive Parts Dealer	1		1.7	
Department Store Owner	1		1.7	
Total		3		5.1
No Comment		2		3.4
Total		59		100.0

* Percentage based on 59 respondents

Seven respondents indicated they entered military service upon graduation. The duties mentioned ranged from those of officers to aircraft piloting.

Three, or 5.1 per cent, of those who completed the questionnaire entered self employment following graduation. Two entered self employment connected with automotive service work, while one selected to enter a department store business.

Beginning Annual Salaries of the Respondents
by Year of Graduation and Field
of Employment

The respondents were asked to indicate the approximate annual salary that was associated with their initial employment following graduation from North Texas State University. The average beginning salary of the 42 respondents reporting beginning salaries was \$5,427. The salaries for the group ranged from a low of \$2,500 to a high of \$12,000. It was indicated that the lowest salaries were attributable to the draft eligibility of the graduates, since higher paying employment could not be obtained until they had fulfilled their military obligation.

Data pertaining to the beginning salaries of the respondents are presented in Table XXIX. Many of the respondents employed in fields of education, armed services, and self employment failed to report concerning their beginning annual salaries.

Thirty-five, or 85.4 per cent, of the respondents who entered industrial or business employment following graduation indicated an average beginning salary of \$5,617.

TABLE XXIX

BEGINNING ANNUAL SALARIES OF THE RESPONDENTS BY YEAR
OF INITIAL EMPLOYMENT AND FIELD OF EMPLOYMENT

Employment Field and Salary Range	Year of Employment										Respondents	
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*
Educational												
No Salary (Student)	1	.	.	.	.	.	.	.	.	.	1	1.7
\$4,000-4,999	.	.	.	.	.	.	.	.	1	.	1	1.7
8,000-8,999	.	.	.	1	.	.	.	.	.	.	1	1.7
No Comment	.	.	.	2	.	.	1	.	.	.	3	5.1
Industrial or Business												
\$2,000-2,999	.	.	1	.	.	.	.	.	.	.	1	1.7
3,000-3,999	.	.	1	.	.	.	.	.	1	.	2	3.4
4,000-4,999	1	.	1	1	1	1	6	1	.	.	12	20.4
5,000-5,999	.	.	1	1	.	.	4	.	3	.	9	15.2
6,000-6,999	.	.	1	.	.	.	1	.	.	1	3	5.1
7,000-7,999	.	2	.	1	.	.	.	.	2	2	7	11.8
No Comment	1	1	.	2	.	1	1	.	1	.	7	11.8
Military												
\$3,000-3,999	.	.	.	.	.	.	.	.	.	1	1	1.7
6,000-6,999	.	.	.	.	.	.	.	.	.	1	1	1.7
7,000-7,999	.	.	.	.	.	.	.	.	.	1	1	1.7
No Comment	.	.	.	1	1	1	.	.	.	1	4	6.8
Self Employed												
\$12,000-12,999	.	.	.	.	1	.	.	.	.	.	1	1.7
No Comment	.	.	1	1	.	.	.	.	.	.	2	3.4
Did not specify initial employment or salary	.	.	1	.	.	.	.	.	1	.	2	3.4
Total	3	3	6	11	3	3	13	1	9	7	59	100.0

* Percentage based on 59 respondents

The annual salaries of the industrial or business employed group ranged from a low of \$2,500 to a high of \$7,800. The largest single group reported annual salaries ranging between \$4,000 and \$4,999.

Current Employment Status of the Respondents

Data presented in Table XXX pertain to the current employment status of the respondents to this study who did not secure a teaching certificate upon graduation. Eight, or 13.5 per cent, of the respondents indicated they were engaged in some form of educational employment. Six of this group reported they were employed by public schools as industrial arts teachers. One respondent was employed as an I. C. T. coordinator in a public school system, while another was serving as a research associate while working on an advanced degree.

TABLE XXX

CURRENT EMPLOYMENT STATUS OF THE RESPONDENTS

Occupations	Respondents			
	Number	Total	%*	Total
Educational				
Industrial Arts Teacher	6		10.1	
Industrial Cooperative Training Teacher	1		1.7	
Research Associate (University)	1		1.7	
Total		8		13.5

TABLE XXX--Continued

Occupations	Respondents			
	Number	Total	%*	Total
Industrial or Business				
Drafting Manager	3		5.1	
Manufacturing Represen- tative	3		5.1	
Draftsman	2		3.4	
Aircraft Title Inven- tory Manager (F.A.A.)	1		1.7	
Airlines Pilot Instructor	1		1.7	
Assistant Mechanical Engineer	1		1.7	
Auto Model Builder	1		1.7	
Auto Parts Manager	1		1.7	
Bank Operations Administrator	1		1.7	
Buyer and Purchasing Specialist	1		1.7	
Computer Analyst	1		1.7	
Design Engineer	1		1.7	
Designer of Pneumatic Tube and Conveyer Systems	1		1.7	
Electrical Sales Representative	1		1.7	
Facilities Inspector (F.A.A.)	1		1.7	
General Manager of Oil Company	1		1.7	
Industrial Engineer	1		1.7	
Insurance Fire Inspector	1		1.7	
Insurance Safety Consultant	1		1.7	
Machinery Salesman	1		1.7	
Manager of Country Club	1		1.7	
Manufacturing Foreman	1		1.7	
Mechanical Designer	1		1.7	
Process Control Engineer, Quality Control	1		1.7	
Product Engineer	1		1.7	
Product Manager, Steel Products Sales	1		1.7	

TABLE XXX--Continued

Occupations	Respondents			
	Number	Total	%*	Total
Industrial (Continued)				
Safety Supervisor, Construction Company	1		1.7	
Salesman	1		1.7	
Senior Graduate Engineer	1		1.7	
Stockbroker	1		1.7	
Superintendent over Airlines Machine Shop Area	1		1.7	
Technical Illustrator	1		1.7	
Vice-President of Engineering and Marketing	1		1.7	
Wage and Salary Administrator	1		1.7	
Total		39		66.1
Military				
U. S. A. F. Maintenance Officer	1		1.7	
U. S. A. F. Supervisor	1		1.7	
U. S. Navy Officer	1		1.7	
Total		3		5.1
Self Employed				
Auto Parts Dealer	1		1.7	
Auto Repair Shop Owner	1		1.7	
Builder of Homes and Apartments	1		1.7	
Co-owner of Boat Company	1		1.7	
Department Store Owner and Manager	1		1.7	
Farmer	1		1.7	
Insurance Agency Owner	1		1.7	
Total		7		11.9
Not Employed		2		3.4
Total		59		100.0

* Percentage based on 59 respondents

Thirty-nine, or 66.1 per cent, of the respondents indicated they were employed by various industrial or business concerns. The occupational titles mentioned by the respondents varied from drafting manager and manufacturing representative to wage and salary administrator. Many of the titles indicated the respondents were performing in supervisory and management capacities.

Three respondents indicated they were serving in the United States Armed Services. All of these indicated they had been in continuous military service since graduation from North Texas State University.

Seven graduates indicated they were self employed. The business interests of this group ranged from auto parts dealership to insurance agency ownership.

Two respondents indicated they were unemployed. One respondent was not employed due to illness while the other stated he was a full-time student.

Data Pertaining to Current Annual Salaries of the Respondents

In order to compare the general wage earning abilities of the respondents of this study, it was necessary for them to indicate their annual salaries. The data concerning current annual salaries are presented in Table XXXI by year of graduation and field of employment. The current salaries reported by the entire group ranged from a low of \$6,000 to a high of \$30,000. The mean salary for the group was \$11,503.

TABLE XXXI--Continued

Employment Field and Salary Range	Year of Graduation										Respond- ents		
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*	
Unemployed	1	1	.	2	3.4
Total	3	3	6	11	3	3	13	1	9	7	59	100.0	

*Percentage based on 59 respondents

Three respondents stated they were serving in the United States Armed Services. The salaries of these respondents ranged from \$7,823 to \$10,973. The average annual salary for the respondents with military employment status was \$9,598.

The average annual salary of the respondents engaged in fields of self-employment was \$16,200. Those who were self-employed indicated higher annual earnings than did any of the other groups. The annual salaries of the self-employed group ranged from \$7,000 to \$30,000.

Factors Relating to Employment Changes and Positions Held by the Respondents

The data presented in Table XXXII pertain to the number of employment positions held by the respondents. The data are presented by year of graduation and number of positions held.

The number of positions which had been held by the respondents varied from one to six. A total of 32, or 52.4 per cent, indicated they had held three or four positions. It is interesting to note that six of the 11 respondents who graduated

TABLE XXXII

DATA PERTAINING TO THE NUMBER OF EMPLOYMENT POSITIONS
HELD BY THE RESPONDENTS

Number of Positions	Respondents											Total	
	Year of Graduation										Total		
	'56	'57	'58	'59	'60	'61	'62	'63	'64	'65	No.	%*	
1	2	0	1	6	0	1	1	0	0	0	11	18.7	
2	0	0	1	1	1	0	1	0	3	3	10	17.0	
3	1	0	2	2	0	1	5	1	2	3	18	28.8	
4	0	2	2	2	1	0	4	0	2	1	14	23.6	
5	0	0	0	0	0	0	2	0	1	1	2	5.1	
6	0	0	0	0	0	0	0	0	1	0	1	1.7	
No Comment	0	1	0	0	1	1	0	0	0	0	3	5.1	
Total	3	3	6	11	3	3	13	1	9	7	59	100.0	

*Percentage based on 59 respondents

in 1959 had held only one position. The 56 respondents who reported their employment experiences had held an average of 2.8 positions. Three failed to indicate concerning their employment experiences.

Four, or 50.0 per cent, of the respondents engaged in educational employment had been employed in the field of education since receiving the bachelor's degree in industrial arts. The other four who indicated educational employment had previously been employed in various industrial fields and had an average of 4.2 years of teaching experience. One of these respondents indicated he was leaving teaching and returning to industry. Three other respondents indicated

some form of teaching experience. One had taught night classes in a junior college while the other two had taught in public schools.

A majority of the employment changes indicated by the respondents pertained to changes made within an organization or to changes made from one business or industrial firm to another. The data presented in Table XXXIII pertain to the types of employment changes made by the respondents.

TABLE XXXIII
TYPE AND FREQUENCY OF EMPLOYMENT CHANGES

Type of Employment or Job Change	Frequency of Change	
	Number	Per Cent**
From Industry to Industry Within an Organization	47	45.6
From Education to Education	25	25.2
From Industry to Self- Employment	10	9.7
From Industry to Education	7	6.8
From Education to Industry	5	4.6
From Military to Industry	4	3.6
From Industry to Military	4	3.6
	1	.9
Total*	103	100.0

* Many respondents indicated more than one employment change

** Percentage based on 103 employment changes reported by the respondents

A total of 103 job or employment changes had been made by the respondents. Forty-seven, or 45.6 per cent, pertained

to changes from one industrial or business firm to another. A total of 25 changes had been made within an employing firm or organization.

The graduates indicated that promotions and professional advancements were principal factors involved in decisions for making employment changes. The possibility of increased salaries also proved to be an influencing factor in decisions concerning employment changes. It is interesting to note that an average annual gain of \$1,009 was associated with the employment changes for reasons concerning increased salary possibilities.

The respondents were asked to indicate the types of promotions they had acquired since receiving the Bachelor of Science degree at North Texas State University. The data presented in Table XXXIV pertain to the promotions received.

TABLE XXXIV
PROMOTIONS RECEIVED BY THE RESPONDENTS

Type of Promotion	Respondents	
	Number	Per Cent*
Job Promotion and Salary Advancement	44	74.5
Job Promotion	10	17.0
Salary Advancement	1	1.7
None	1	1.7
No Response	3	5.1
Total	59	100.0

*Percentage based on 59 respondents

A total of 55, or 93.2 per cent, of the respondents had received some type of promotion. Forty-four, or 74.5 per cent, indicated they had received both job and salary promotions. One industrial arts teacher stated he had not received a promotion of any type.

Further analysis of the responses indicated the graduates were employed an average of 13 months before receiving a promotion. The length of employment before promotion ranged from two months to six years. Thirty-one, or 58.5 per cent, of those responding stated they were promoted before or soon after their first year of employment. One indicated he received a promotion upon graduation while another responded that he worked for six years before receiving a promotion.

Future Employment Plans of the Respondents

The future employment plans of the respondents were of interest to this study. The data presented in Table XXXV

TABLE XXXV
FUTURE EMPLOYMENT PLANS OF THE RESPONDENTS

Employment Plans	Respondents	
	Number	Per Cent*
Continue Present Employment	36	61.0
Change Employment	4	6.8
Undecided	17	28.8
No Comment	2	3.4
Total	59	100.0

*Percentage based on 59 respondents

indicate that 36, or 61.0 per cent, of the respondents planned to continue their present employment. Four stated they planned to change employment while 17 were undecided about their future. Two failed to respond to the question.

If the respondents were planning a change in employment, they were asked to indicate what employment fields they were considering. Data in Table XXXVI pertain to the changes in employment that were being considered.

TABLE XXXVI

EMPLOYMENT CHANGES UNDER CONSIDERATION BY THE
RESPONDENTS WHO DID NOT SECURE
TEACHING CERTIFICATES

Changes in Employment Under Consideration	Number of Respondents Considering Change
Change to Industrial or Business Employment	9
Change to Teaching Employment	3
Undecided	7
Other	2

A total of 21 respondents indicated they were either considering or would consider an employment change. Nine indicated they would seek industrial or business employment while three indicated they would like to begin teaching in the field of education. Seven respondents were yet undecided about the employment field they might enter. Two indicated they would like to be self-employed.

The respondents indicated several reasons for wanting to change employment. Twelve believed there would be better opportunities in other employment. Six stated that higher salaries elsewhere were attractive to them, while three responded that they were not satisfied with their present employment.

Factors Relative to the Types and Sizes of Firms With
Whom the Respondents Are or Have Been Employed and
the Nature of the Employment
Of the Respondents

In addition to supplying information concerning employment experiences, the respondents were asked to identify types and sizes of firms and businesses with whom they had been employed. The descriptive information obtained indicated the types of business and industrial fields and is presented in Table XXXVII.

The largest groups of responses indicated that many of the respondents had been employed by firms that manufacture electronic equipment and aerospace and aircraft vehicles. The other fields mentioned indicated the respondents had been employed by firms involved in work ranging from various phases of construction to the manufacturing of welding apparatus.

Twenty-two, or 37.3 per cent, of the respondents indicated they had been employed by firms having 5,000 or more employees. It is interesting to note that the respondents chose to be employed by larger firms after graduation, but as they grew older, had a tendency to change to smaller organizations.

TABLE XXXVII

TYPES OF BUSINESS OR INDUSTRIAL FIELDS WITHIN WHICH
THE RESPONDENTS HAVE BEEN EMPLOYED

Field	Number of Respondents
Electronic Equipment Manufacturing	18
Aerospace and Aircraft Manufacturing	10
Construction	8
Conveyor Manufacturing	3
Insurance	3
Air Traffic Control	2
Automobile Parts Service	2
Banking	2
Comercial Airlines	2
Contract Drafting	2
Mechanical Representative	2
Metal Manufacturing	2
Public Utilities (Electricity)	2
Steel Manufacturing	2
Automatic Controls (Electrical)	1
Automobile Air Conditioner Manufacturing	1
Automotive Repair	1
Clothing Manufacturing	1
Commercial Trailer Manufacturing	1
Country Club	1
Crude Oil Production	1
Department Store Goods	1
Engineering Consultant Service	1
Foundry	1
Furniture Sales	1
Geophysical Surveying Service	1
Gun Manufacturing	1
Industrial Cement Pipe Manufacturing	1
Industrial Hydraulics Manufacturing	1
Machinery and Equipment Sales and Service	1
Manufacturing Representative	1
Military Munition Manufacturing	1
Petroleum Products Distribution	1
Public Utilities (Natural Gas)	1
Race Car Manufacturing	1
Sales (General)	1
Sewer Pump and Sewer Plant Manufacturing	1
State Highways	1
Steel Supplier	1
Technical Data Preparation	1
Telephone Manufacturing	1
Welding Apparatus Manufacturing	1

The data indicated the majority of the respondents were actively engaged in employment centered around engineering, planning, production, and distribution of various manufactured articles. Many of the respondents indicated their employment duties consisted of planning, designing, supervising, managing, and consulting of basic procedures and processes surrounding manufacturing and engineering.

Factors Relative to the Education Received at North Texas State University

An attempt was made in this study to determine, in the opinion of the graduates, the value of the education received as it pertained to the employment of the respondents to this study. They were asked if the industrial arts degree was adequate in meeting the entry requirements into their fields of employment. Fifty-one, or 86.5 per cent, of the respondents stated the degree was adequate. Five indicated the degree did not meet entry requirements, while three respondents failed to answer the question.

The reasons given by the respondents who indicated the degree was not acceptable, varied with each individual. One chose to enter the field of engineering but found it necessary to secure an engineering degree before entering employment. Another respondent indicated the industrial arts degree was not understood in his field of employment. He stated the degree was confused with the art field. Other respondents indicated the degree was not acceptable because it was unheard

of in certain industrial fields. It should be noted that all of these respondents attempted to enter specialized areas of design and engineering.

The respondents were asked if they encountered any problems in their employment after graduation that indicated lack of preparation in their major field of training. Thirty-nine responded they did not experience problems of this nature. Ten failed to respond to the question while 10 stated they did have problems. Most of the problems mentioned by the respondents were of a general nature. However, several stated they needed more depth and specialized training. Several indicated a weakness in related fields of mathematics and physics. Due to the number of general and indefinite answers to the question, it appeared the question was not thoroughly understood and therefore was of little value.

The respondents were asked to indicate the areas of industrial arts of most importance to them in their employment. Many responded with specific courses rather than integral areas. Therefore, the indicated courses are listed under the designated areas of importance in Table XXXVIII.

Drafting and metalworking were the two areas of industrial arts that were mentioned most frequently. Thirty-one of those who completed the questionnaire indicated that drafting was most important to them, while 17 indicated different phases of metalwork. Ten respondents stated that all areas of industrial arts were important to them in their

employment, while four indicated that none were important. Others indicated the importance of specific courses and items of general knowledge that were of value to them in their employment. Those mentioned were: general mechanical knowledge gained through industrial arts education, knowledge of tools and materials, general knowledge of the care of shop tools and equipment, safety education, and philosophies of industrial arts education.

TABLE XXXVIII

AREAS OF INDUSTRIAL ARTS OF MOST IMPORTANCE TO THE RESPONDENTS BY FREQUENCY OF RESPONSE

Areas of Importance	Respondents	
	Number	Total*
Drafting		31
Metalworking		17
General Metalwork	9	
Machine Shop	5	
Foundry	2	
Welding	1	
Electricity and Electronics		3
Woodworking		2
Power Mechanics		1
All Important		10
None Important		4
No Comment		5

* Many respondents indicated more than one area

Factors Relative to Additional Formal Education
Received by the Respondents

An attempt was made in this study to ascertain what additional education the graduates had secured since receiving the Bachelor of Science degree at North Texas State University. The respondents were asked if they had received additional college degrees. Fifty-five, or 93.3 per cent, of the respondents had not earned any other degrees. One respondent indicated he had secured a Master of Science degree in industrial arts, another indicated he had secured a Bachelor of Science degree in mechanical engineering, and one responded that he had completed the requirements for a Bachelor of Business Administration degree in management.

The respondents were asked if they were presently working toward an advanced degree. Nine answered the question affirmatively. Data in Table XXXIX identify the fields of study of the respondents. Five of the respondents indicated

TABLE XXXIX
CURRENT EDUCATIONAL FIELDS OF STUDY INDICATED
BY THE RESPONDENTS

Field of Study	Number of Respondents
Banking	1
Computer Science	1
Educational Administration	1
Electrical Engineering	1
Guidance	1
Industrial Education	1
Personnel Management	1
Secondary Education	1
Secondary School Administration	1

they were working toward some form of a degree in the field of education. The other fields of study mentioned by the respondents included banking, computer science, electrical engineering, and personnel management.

The respondents were asked if they planned to work toward other degrees if they were not presently doing so. Nine had previously indicated they were in school. Nine said they had plans to work toward an advanced degree, while 24 stated they had no intentions of doing so. Seventeen respondents were yet undecided about any additional education they might attempt.

It was considered important to know if the respondents wished they had completed the requirements for and secured the teaching certificate before leaving North Texas State University. Thirty-two respondents indicated they did not desire to have a teaching certificate. Sixteen responded that they would like to have the certificate, while eight indicated they had since secured a teaching certificate. Three failed to respond to the question.

An attempt was made to determine the number of the respondents that were planning to secure a teaching certificate. Only two stated they had definite plans of doing so. Ten were yet undecided about the possibilities of securing the certificate. One respondent indicated he was teaching with a temporary certificate but planned to leave teaching and return to industry. It is interesting to note that one

of the respondents planning to secure the teaching certificate was presently employed in industry while the other was a member of the U. S. Air Force.

In Chapter IV data are treated pertaining to the employment status and work experiences of the respondents who did not secure a teaching certificate upon graduation. Data presented in this chapter include sources of information leading to initial areas of employment, beginning salaries and areas of employment, current salaries and status of employment, factors relating to employment changes and positions held, promotions received, and future employment plans. Additional data were presented which included types and sizes of firms with whom the respondents had been employed, factors relative to the education received at North Texas State University, and additional education received.

CHAPTER V

A COMPARISON OF DATA RELATIVE TO THE EMPLOYMENT STATUS AND WORK EXPERIENCES OF INDUSTRIAL ARTS GRADUATES OF NORTH TEXAS STATE UNIVERSITY

Chapter III and Chapter IV of this study presented data relative to two groups of industrial arts graduates of North Texas State University. Chapter III was a discussion of factors relative to the employment status and experiences of the graduates who received teaching certificates upon graduation from college. Chapter IV presented data concerning the graduates who chose not to secure a certificate at the time of graduation. Chapter V provides a comparison of the statistical data that was previously indicated in Chapter III and Chapter IV. The comparisons were necessary for the purpose of indicating findings and making conclusions concerning the respondents of the study.

A Comparison of the Sources Used by the Graduates in Securing Employment Immediately Following Graduation

Information was sought relative to the sources used by graduates in gaining employment following graduation. A majority, or 58.6 per cent, of the respondents who received teaching certificates upon graduation and 88.1 per cent of

those who did not receive teaching certificates indicated they secured employment through sources unrelated to North Texas State University. An average of 41.5 per cent of both groups indicated they secured employment as a result of personal interviews off campus. The Placement Office at North Texas State University was credited for placing 22 of the respondents that received teaching certificates as compared to only one who chose not to secure a certificate. Faculty members assisted a total of 10 respondents in securing employment. Nine of this group secured teaching certificates upon graduation. The tabulated data indicate that a large portion of the respondents who did not receive teaching certificates were assisted in securing employment by private employment agencies.

A Comparison of the Initial Areas of Employment Entered by the Respondents

An attempt was made to identify the employment entered by the respondents immediately following their graduation from college. It was determined that 64, or 52.1 per cent, of the respondents who secured teaching certificates went directly into educational employment following graduation from college. Five of the respondents who did not receive teaching certificates also entered employment in the field of education. The most frequently mentioned educational employment pertained to teaching industrial arts in public schools.

Eighty-four, or 46.1 per cent, of the total number of respondents to the study indicated they were initially employed in either industrial or business fields. Forty-three of this group secured teaching certificates upon graduation, while 41 did not. The types of industrial or business employment entered by the respondents varied in both groups from draftsman to welder. The most frequently mentioned type of employment in both groups was related to the field of drafting.

Eleven respondents who received teaching certificates and seven of those who did not secure certificates entered military service upon graduation from college. The U. S. Air Force attracted more of the respondents than any of the other single branches of military service.

A total of five respondents entered self employment upon graduation, two of which received teaching certificates. One respondent who received the teaching certificate entered the real estate and insurance business, while the other organized an engineering consulting firm. Two of the graduates who did not secure teaching certificates entered self employment connected with automotive service work, while one selected to enter a department store business.

A Comparison of the Beginning Annual Salaries of the Respondents of this Study

An attempt was also made to identify the annual salaries that were associated with the areas of initial employment.

The annual beginning salaries of the group of respondents who secured teaching certificates upon graduation ranged from a low of \$2,800 to a high of \$10,000. The average annual salary for this group was \$5,602. The annual salaries of the respondents who secured beginning employment in either business or industrial fields were somewhat higher than those of the group that entered educational employment.

The beginning salaries of the respondents who did not receive teaching certificates upon graduation ranged from a low of \$2,500 to a high of \$12,000. Many of the respondents indicated they were unable to locate higher paying employment because of their draft eligibility. The average annual salary for this group was \$5,427.

A Comparison of the Current Employment Fields of the Respondents of this Study

For comparative purposes, it was asked of the respondents to indicate the fields of their current employment. The data in Figure 1 reveal a comparison of the employment fields of which the respondents were employed at the time of this study.

Figure 1 indicates that at the time of this study, 45.5 per cent of the respondents who secured teaching certificates and 13.5 per cent of those who did not secure teaching certificates upon graduation, were actively engaged in some form of educational employment. A majority of the respondents of each group who were employed in the field of education indicated

they were employed as industrial arts teachers in public schools. The other categories of occupations reported by the respondents who secured teaching certificates upon graduation ranged from college industrial arts instructor to state consultant for Texas Veterans Education. Only two other categories were indicated by the respondents who did not secure teaching certificates upon graduation from college. The reported occupational titles included industrial cooperative training coordinator and university research associate.

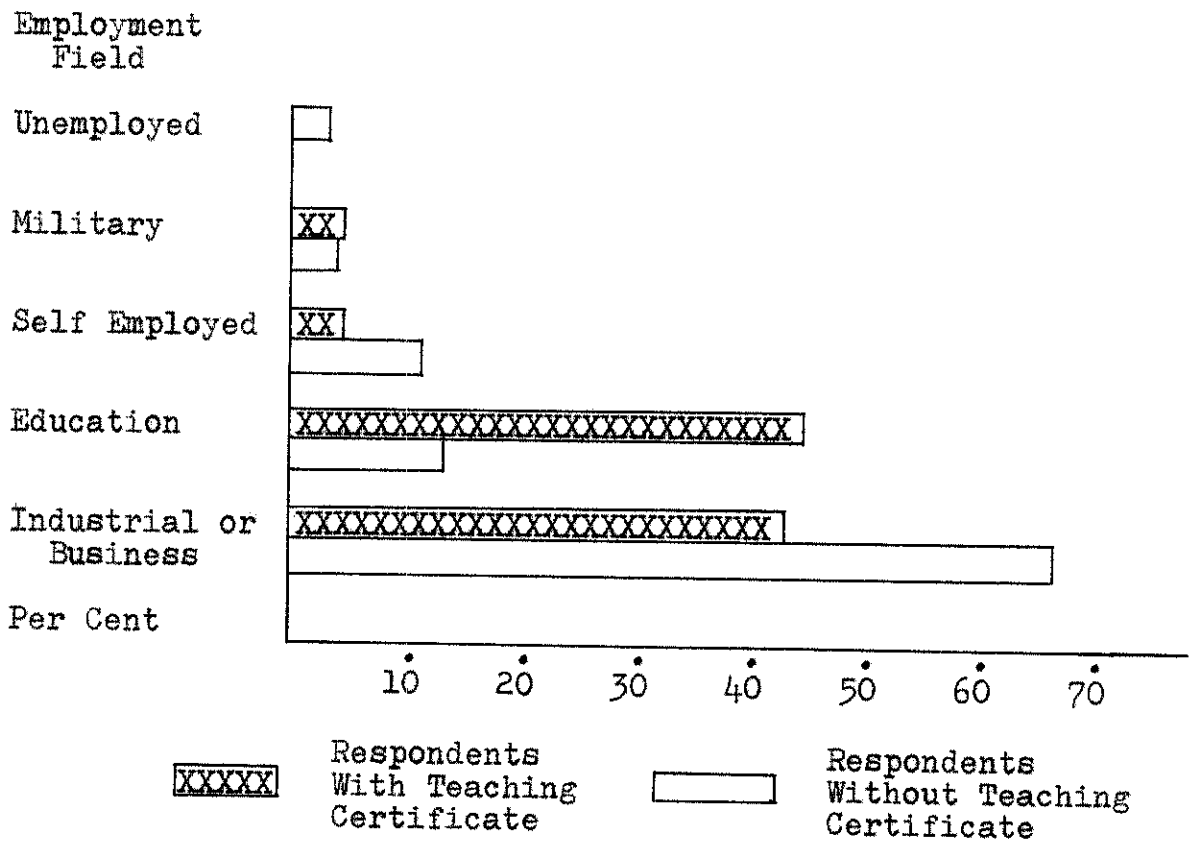


Fig. 1--A comparison of the current employment fields of the respondents by per cent of response within each group of respondents.

Figure 1 also indicates that 43.1 per cent of the respondents with teaching certificates and 66.1 per cent of the group without the certificates were employed in either business or industrial related fields. The occupational titles reported by the respondents varied with each individual. Many of the titles indicated the respondents were performing in supervisory and management capacities.

At the time of this study, a total of 10 respondents were serving in various branches of the United States Armed Services. Seven of these respondents received teaching certificates upon graduation.

A total of seven respondents of each group indicated they were currently self employed. The business interest of the group that secured teaching certificates upon graduation from college ranged from commercial helicopter contractor to upholstery shop owner. The range of business interest for the group of respondents who did not receive teaching certificates upon graduation varied from auto parts dealer to insurance agency owner.

Two respondents who did not secure teaching certificates upon graduation indicated they were unemployed at the time of this study. One respondent indicated he was unemployed due to personal illness, while the other indicated he was a full-time student.

A Comparison of the Current Annual Salaries of
the Respondents of this Study

In order to compare the wage-earning abilities of the respondents to this study, it was necessary to ask those participating in the study to indicate their annual salaries. The data presented in Figure 2 reveal a comparison of the average current annual salaries of the respondents by field of employment.

The individual annual salaries of the respondents who received teaching certificates and who were employed in fields of education ranged from a low of \$3,500 to a high of \$12,157. The average annual salary for this group was \$7,607. The average salary for the respondents who indicated they were employed in a field of education but did not receive a teaching certificate upon graduation was \$8,096 with a salary range from \$6,200 to \$11,000.

The reported annual salaries of the respondents who were employed in business or industrial fields ranged from a low of \$6,000 to a high of \$25,000. The average annual salary for the group of respondents who received teaching certificates upon graduation was \$10,988 as compared to \$12,118 for the group who did not receive teaching certificates.

The annual salaries of the respondents who indicated they were serving in various branches of military service ranged from \$7,823 to \$14,600. The average annual salaries of the respondents who received teaching certificates

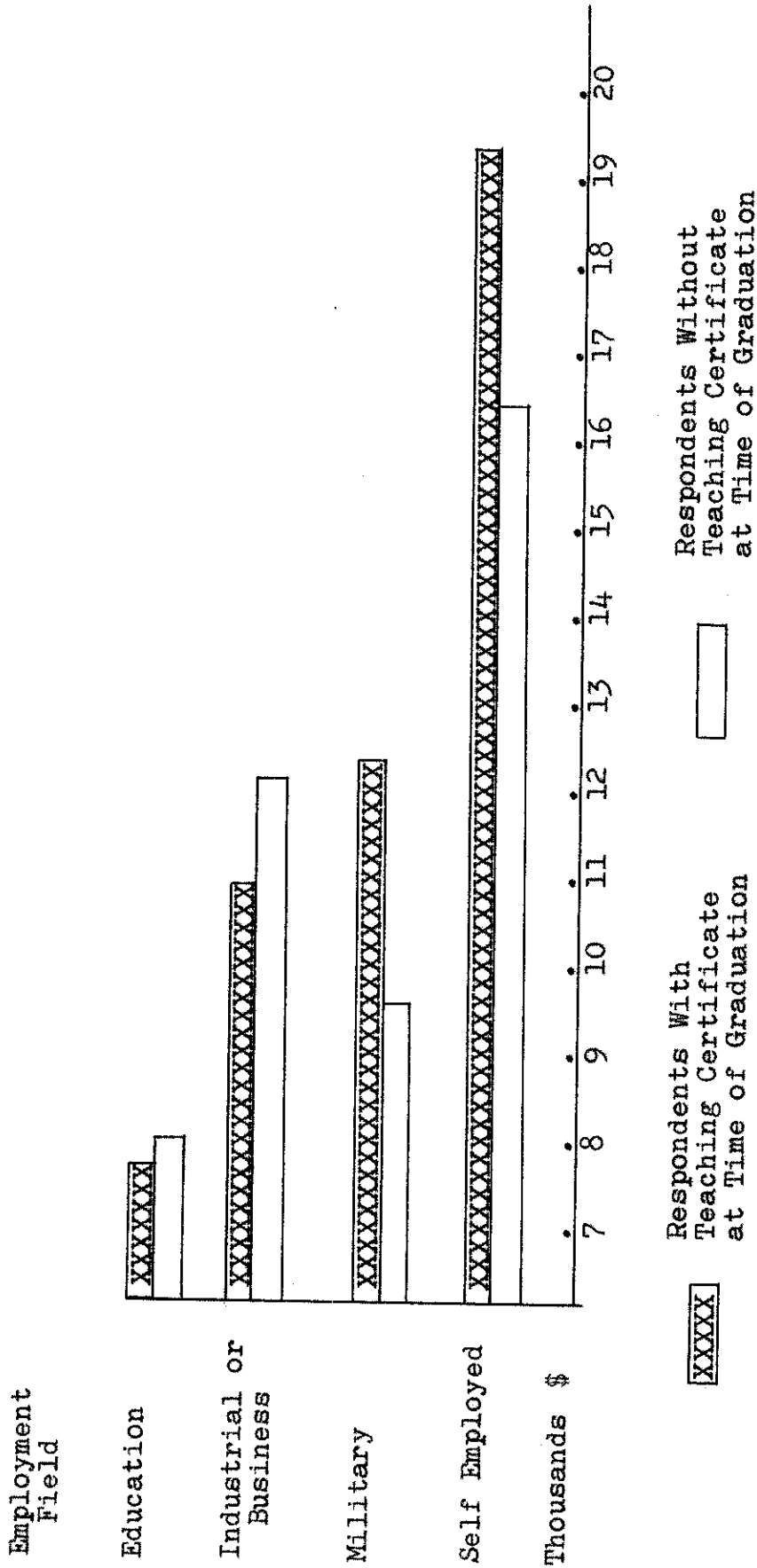


Fig. 2--A comparison of the average current annual salaries of the respondents by type of degree received and current field of employment.

upon graduation from college and those who did not receive certificates were \$12,250 and \$9,598 respectively.

The annual salaries reported by the respondents who were engaged in fields of self employment were considerably higher than the salaries reported by the respondents of other fields of employment. The salaries reported by the respondents ranged from a low of \$7,000 to a high of \$30,000. The average salary of \$19,350 for the group that received teaching certificates was somewhat higher than the average salary of \$16,200 for those who did not receive teaching certificates upon graduation from college.

A Comparison of Data Pertaining to Employment
Changes, Positions Held, and Promotions
Received by the Respondents
of this Study

Information was sought concerning the employment changes and positions held by the respondents of this study. The respondents who received teaching certificates upon graduation indicated they had held from one to five positions since receiving the bachelor's degree in industrial arts. The tabulated data indicated the respondents had held an average of 2.2 positions. The respondents who did not receive teaching certificates upon graduation had held an average of 2.8 positions, with the number of positions ranging from one to six.

The collected data indicate that the most frequent type of employment change made by both groups of respondents

involved that of changing from one industrial or business firm to another. A larger percentage of respondents had changed from educational positions to industrial positions than had changed from industrial to educational positions. Both groups indicated that specific factors were involved in decisions for making employment changes. The factors most frequently mentioned included: possibilities of increased salaries, promotions, and professional advancement.

A majority of both groups of respondents indicated they had received some type of promotion since graduation from college. Most of the job promotions received by the respondents were accompanied by a salary advancement. A majority of those responding indicated they were employed an average of one year before receiving a promotion. However, the time indicated by the respondents between their initial employment and first promotion ranged from six weeks to ten years for the group with the teaching certificates as compared to two months to six years for the group without teaching certificates.

A Comparison of the Future Employment Plans of the Respondents

An attempt was made to identify the future employment plans of the respondents of this study. Those participating were asked to indicate their future employment plans. A majority, or 77.2 per cent, of those who received teaching certificates, and 61.0 per cent of those who did not receive

certificates, indicated they planned to continue their present employment. A total of five respondents who received teaching certificates and four who did not receive certificates indicated they had definite plans for changing employment. A total of 40 respondents, 23 of whom received teaching certificates, were undecided concerning their employment plans.

Some respondents indicated definite reasons for wanting to change employment. Those most frequently mentioned included a feeling there would be higher salaries and better opportunities elsewhere, and a general dissatisfaction with their employment.

A Comparison of Data Relative to the Business
and Industrial Employment Held by the
Respondents of this Study

The descriptive information obtained from this study indicates that a total of 87, or 70.7 per cent, of the respondents who received teaching certificates upon graduation had held some type of business or industrial employment since graduation from college. A total of 54, or 91.5 per cent, of those responding who did not receive certificates also reported employment of this nature.

Two types of industrial manufacturing firms were indicated as having attracted the largest single groups of respondents. The most frequently indicated were those industrial firms that were involved in the manufacturing

of electronic equipment and aerospace and aircraft vehicles. The other fields of employment mentioned indicated the respondents had been employed by firms involved in work ranging from insurance and construction to the manufacturing of wood and wood products and welding apparatus.

The data indicate that the nature of the employment and the responsibilities of the respondents pertained in many cases to engineering, planning, production, and distribution of various manufactured articles. The employment duties performed by many of the respondents pertained to management and supervision.

A Comparison of Data Relative to the Education Received at North Texas State University

An attempt was made to determine the value and the relationship of the industrial arts courses taken at North Texas State University to the employment status of the respondents of this study. Those participating in the study were asked to indicate the areas of industrial arts that were of most importance to them in their employment. A majority, or 83.7 per cent, of the respondents who received teaching certificates, and 84.7 per cent of those who did not receive certificates, indicated specific areas that were important. Drafting was indicated by a majority of both groups as being most important to their employment. Metalworking received the next most frequent number of responses followed by woodworking, electricity, and electronics.

Information was also sought concerning possible problems the respondents might have encountered in their employment that would indicate a weakness of preparation in their major field of training. An average of 17.0 per cent of both groups of respondents indicated they did experience problems. Some of the problems mentioned were indefinite in nature. However, some of the definite responses included weakness in organizational abilities, lesson planning, improvising abilities, practical experiences, and in related fields of mathematics and physics. Several respondents indicated they needed more depth and specialized training in their major field.

A Comparison of Factors Relative to Additional
Formal Education Received
By the Respondents

It was assumed that a relationship did exist between the education received and the employment status of the respondents to this study. Therefore, the respondents were asked if they had acquired other degrees since receiving the Bachelor of Science degree at North Texas State University. The data indicate that 39, or 31.7 per cent, of the respondents who received teaching certificates upon graduation, and four or 6.8 per cent, of the group that did not receive certificates had acquired additional college degrees. The degrees acquired by the group with teaching certificates pertained to the field of education, whereas those of the other group included mechanical engineering, business administration,

and industrial arts. Eight respondents who did not secure teaching certificates upon graduation had since returned to school and acquired the certificates.

Many respondents reported they were working on advanced degrees. Twenty-eight of the group who secured teaching certificates and nine of the other group indicated they were involved in educational programs. Four with teaching certificates stated they were engaged in doctoral studies. The remaining group of respondents were involved in various fields of master's studies.

Chapter V has been concerned with making comparisons of the data previously presented in Chapter III and Chapter IV of this study. The comparisons that were made pertained to sources used by the respondents in securing employment immediately following graduation from college, initial areas of employment and salaries of the respondents, current employment fields and salaries, factors pertaining to employment changes, positions held, and promotions received by the respondents. Additional comparisons were made relative to future employment plans, business and industrial experiences, and education received by the respondents.

CHAPTER VI

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The problem of this study was to provide information relative to the employment status of 1956 through 1965 industrial arts graduates of North Texas State University. More specifically, the purposes of the study were as follows:

1. To identify and compare the employment status of the industrial arts graduates.
2. To determine the relationship of the graduates' age, marital status, family size, previous education, and work experiences to the graduates' employment status.
3. To determine the value and the relationship of the education received at North Texas State University, with the status of employment of the graduates.
4. To identify the influencing factors involved in the selection by the graduates of the various fields of their employment.
5. To ascertain if there was any difference between the earning powers of and success achieved by the graduates with the teaching certificate and those graduates who chose not to secure the teaching certificate.

This study was limited to graduates of North Texas State University. The study was further limited to 182 respondents of the study who received the Bachelor of Science degree in industrial arts during the years of 1956 to 1965 inclusive. An evaluation of the curriculum, faculty, and the Department of Industrial Arts at North Texas State University was not included in this study.

Data concerning the employment status and work experiences of industrial arts graduates of North Texas State University were secured through the use of a questionnaire form. Of the 232 questionnaires mailed to industrial arts graduates, 182 or 79.1 per cent , were returned. The data in these questionnaires were analyzed, tabulated, and presented, which formed the basis for this study.

An introduction to this study was presented in Chapter I. Information presented in this chapter included: purpose of the study, significance and need of the study, limitations of the study, basic assumptions, definition of terms, and sources of data presented in the study. Additional information presented included: procedure of the study, an organization of the study, and recent and related studies.

In Chapter II, data were presented that pertained to the personal characteristics of the respondents. Data presented included: age distribution, marital status, family size, education prior to enrolling at North Texas State University, factors influencing the selection of industrial arts as a major

field of study, and work experiences of the respondents prior to and during attendance at North Texas State University.

Factors relative to the employment status and work experiences of the 123 graduates involved in this study and who received teaching certificates upon graduation were of concern in Chapter III. Data presented in Chapter III included: sources of information leading to initial employment, beginning salaries and areas of employment, current employment status and salaries of the respondents, factors relating to employment changes, promotions received, and future employment plans. Specific data were presented relative to the respondents who had been employed in fields unrelated to that of education. Information was also sought concerning the value and importance of industrial work experience relative to the respondents who were employed in the field of education. Additional data were presented relative to the education received at North Texas State University and the significance of additional education.

Chapter IV was devoted to the presentation of data pertaining to the employment status and work experiences of the fifty-nine respondents who did not secure a teaching certificate upon graduation from college. Data presented in Chapter IV included: sources of information leading to initial areas of employment, beginning salaries and areas of employment, current salaries and status of employment, factors relating to employment changes, promotions received, and future

employment plans. Additional data were presented which included: types and sizes of firms with whom the respondents have been employed, factors relative to the education received at North Texas State University and additional education received.

Chapter V was concerned with an additional treatment of the data previously presented in Chapter III and Chapter IV. Chapter V presented comparisons of data which included: sources used by respondents in securing employment immediately following graduation, initial areas of employment and salaries of the respondents, current employment fields and salaries, factors pertaining to employment changes, positions held, and promotions received by the respondents. Additional comparisons were made relative to future employment plans, business and industrial experiences, and advanced degrees earned by the respondents.

Findings

Based on the data obtained from this study, the following findings are presented:

1. At the time of this study the mean age of the industrial arts graduates who obtained the teaching certificate upon graduation was thirty-three as compared to the mean age of thirty-one for the graduates who chose not to secure the teaching certificate.

2. A large majority of both groups of industrial arts graduates were married and had an average of 1.7 children.

3. A total of 56.1 per cent of the graduates who received the teaching certificate and 45.8 per cent of those who did not secure the teaching certificate at the time of graduation had attended other colleges before enrolling at North Texas State University.

4. A large number of both groups of graduates selected "interest in this type of work" as being the number one influencing factor involved in their selection of industrial arts as a major field of study.

5. A total of 68.5 per cent of the graduates with the teaching certificate and 69.5 per cent of those without the certificate chose industrial arts as their major during either their first or second year in college.

6. A large number of both groups of graduates worked either prior to or during their college training.

7. It was determined that 52.1 per cent of the 123 respondents who received the teaching certificate went into educational employment following graduation.

8. The influencing factor most frequently mentioned by the graduates for not entering educational employment pertained to salaries.

9. Salaries of graduates who entered educational employment were somewhat less than those of graduates who entered other fields of employment.

10. At the time of this study, 45.5 per cent of the respondents of the study who received the teaching certificate and 13.5 per cent of those who did not receive the

certificate at the time of graduation were employed in the field of education.

11. It was found that 48.7 per cent of the graduates who received the teaching certificate at the time of graduation and 78.0 per cent of the group without the teaching certificate were either self-employed or were employed in a business or industrial field.

12. Thirty-two of the respondents who indicated they were currently employed in the field of education also reported they had additional part-time employment.

13. The study indicated the current annual salaries of the respondents who were employed in the field of education were less than those of the respondents who were employed in other fields.

14. The respondents of the study who received the teaching certificate had held an average of 2.2 positions since graduation as compared to the average of 2.8 positions held by those respondents who did not secure the teaching certificate at the time of graduation.

15. The most frequently mentioned reasons given by both groups of respondents for making employment changes pertained to salaries, promotions, and professional advancement.

16. One hundred twelve, or 91.2 per cent of the respondents with the teaching certificate indicated that industrial employment experience was of some value to the industrial arts teacher.

17. A majority, or 77.2 per cent, of the respondents who received the teaching certificate, and 61.0 per cent who did not receive the certificate, indicated they planned to continue in their present employment.

18. A majority, or 83.7 per cent, of the respondents who received the teaching certificate, and 84.7 per cent of those who did not receive the certificate indicated specific areas of industrial arts that were of importance to them in their employment. The area most frequently mentioned by both groups was drafting.

19. Thirty-nine, or 31.7 per cent, of the respondents who received the teaching certificate upon graduation and four, or 6.8 per cent, of the group that did not receive the certificate had acquired additional college degrees. Twenty-eight of the group that secured the teaching certificate and nine of the other group indicated they were involved in graduate studies.

20. Eight respondents who did not secure the teaching certificate upon graduation had since returned to school and acquired the certificate.

21. The most frequently mentioned types of industrial experience of both groups of respondents pertained to employment with firms that manufacture electronic equipment and aerospace and aircraft vehicles.

22. A total of seventy-six respondents who received certificates upon graduation have had employment in the field of education.

Conclusions

Based upon the findings of this study, the following conclusions appear in order.

1. There is no appreciable difference between the earning abilities and success achieved by the two groups of graduates involved in this study. The only difference being the field of employment selected by the graduates.

2. No direct relationship exists between the marital status and family size of the respondents and their chosen field of employment.

3. Distinct influencing factors exist in decisions concerning fields of employment selected by industrial arts graduates.

4. Criteria for success and promotion in the field of education are based on advanced degrees earned.

5. Industrial arts graduates who were involved in this study will continue to approximately equally divided between educational and other fields of employment.

6. The educational training of North Texas State University industrial arts graduates is compatible to the field of education as well as other areas of employment.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are presented:

1. An effort should be made to clarify the general educational status of industrial arts graduates.

2. An extensive study should be initiated to determine why more of the qualified graduates are not employed in the field of education.

3. Consideration should be given to providing a more effective placement service for industrial arts graduates of North Texas State University.

4. Due to changing social and economic conditions, periodic studies concerning industrial arts graduates should be conducted.

APPENDICES A, B, AND C

- Appendix A - Letter describing the study to graduates selected for participation in the study.
- Appendix B - Questionnaire form mailed to graduates who received teaching certificates upon graduation from college.
- Appendix C - Questionnaire form mailed to graduates who chose not to secure teaching certificates upon graduation from college.

APPENDIX A

May, 1969

Dear Graduate:

I am presently conducting a survey of 1956-1965 industrial arts graduates of North Texas State University. The purpose of the study is to determine the employment status of the graduates.

Enclosed is a questionnaire in the form of a check list. It is designed to consume as little of your time as possible and yet provide the information necessary to the study. In order that the study might be more complete, the information from you is needed. Please answer all questions. Feel free to make comments where you feel they are necessary.

Enclosed, also, is a self-addressed, stamped envelope for your convenience in returning the completed questionnaire. The information you supply in the questionnaire will be treated confidentially and will appear only in statistical tables and graphs.

Please complete and return the questionnaire as soon as possible. Thank you for your participation in this study.

Approved by:

Sincerely yours,



Earle B. Blanton, Director
Industrial Arts Department
North Texas State University

Lowell R. Miller
Graduate Student

encl.

WORK EXPERIENCES OF 1956-1965 INDUSTRIAL ARTS GRADUATES OF NORTH TEXAS STATE UNIVERSITY

Please supply the information by checking (✓) the appropriate response or by writing the information in the blank. Please answer all questions. Feel free to make comments where you feel they are necessary.

Name _____
 Last First Initial Age
 Present Address _____
 Street & Number City State
 Name of Employer _____
 Duties you perform (Specify in detail) _____

What is your present marital status?

1. () Single
2. () Married
3. () Separated
4. () Divorced
5. () Widowed

If married, how many children have you? (Specify number of boys and number of girls)

1. () No children
2. () Boys
3. () Girls

1 Had you attended other colleges previous to enrollment at North Texas State University?

1. () Yes
2. () No

4 When did you choose industrial arts as your major field of college study?

1. () High school years
2. () First year in college
3. () Second year in college
4. () Other (Specify) _____

2 If you attended other colleges before entering North Texas State University, what type of college did you attend?

1. () Junior college
2. () Senior college
3. () Does not apply

5 What were the chief factors influencing you to select industrial arts as your major field of study in college? (Please do not check more than two, number first choice "1", second choice "2")

3 If you attended other colleges, previous to enrollment at North Texas State University, how long did you attend those schools?

1. () 1 year
2. () 2 years
3. () Other (Specify time) _____
4. () Does not apply

1. () Advice of family
2. () Advice of a friend
3. () Advice of a teacher
4. () Previous work experience
5. () Interest in this type of work
6. () Industrial Arts experience in high school
7. () Other influence (explain) _____

- 6 What is the highest degree you have earned since graduating from North Texas State University?
Type of degree _____
(M.S., M.Ed., etc.)
in _____
(Major)
 None
- 7 Are you presently working toward an advanced degree?
1. Yes
2. No
- 8 If you are working toward an advanced degree, what is your major?

 Does not apply
- 9 If you have not received, or are not working toward an advanced degree, do you plan to begin work toward one in the future?
1. Does not apply
2. Yes
3. No
4. Uncertain
- 10 Had you worked previous to enrolling at North Texas State University?
1. Yes (If yes, specify title or position and duties performed)

2. No
- 11 Did you work while attending college? (Check all that apply)
1. Part-time
2. Full-time
3. Did not work while attending college
- 12 If you worked while attending North Texas State University, what were the duties performed? (Specify title and duties)

 Did not work while attending college
- 13 Through what methods did you gain your first employment, after graduation from college?
1. Interviews on campus
2. Interviews (personal) off campus
3. Through a friend or some member of the family
4. Through the help of some member of the faculty at North Texas State University
5. Placement office at North Texas State University
6. Other (Specify)

- 14 Do you plan to continue with your present employment?
1. Yes
2. No
3. Undecided
- 15 If you are considering changing jobs, what is the reason for wanting to do so?
1. Does not apply
2. Not satisfied with present employment
3. Higher Salaries elsewhere
4. Better opportunities in other employment
5. Other (Explain)

- 16 If you are considering changing employment, what area of employment will you enter?
1. Does not apply
2. Teaching employment
3. Industrial employment
4. Undecided
5. Other _____
- 17 If you did not enter teaching employment upon graduation, what was the reason for doing so?
1. Does not apply
2. Found that I did not like teaching
3. Salaries elsewhere attracted me
4. Better chance for advancement in other fields
5. Other employment offered more security

- 17 6. () Better working conditions in other employment
 7. () Could not find employment in teaching field
 8. () Other (Explain) _____
-

18 If you were employed in an area of work other than teaching, but have later entered teaching, what was the reason for doing so?

1. () Does not apply
 2. () Teaching offered more security
 3. () More attractive salary
 4. () Liked the working conditions
 5. () Could not find any other employment
 6. () Liked teaching
 7. () Was better prepared to teach
 8. () Other (Explain) _____
-

19 If you entered teaching after graduating from college, but have later left teaching to enter other fields of employment, what was the reason for doing so?

1. () Does not apply
 2. () Found that I did not like teaching
 3. () Salaries elsewhere attracted me
 4. () Better chance for advancement in other fields
 5. () Other employment offered more security
 6. () Better working conditions in other employment fields
 7. () Other (Explain) _____
-
-
-

20 Do you feel that industrial employment experience is important to the industrial arts teacher?

1. () Yes
 2. () No

21 If you think that industrial work experience is important to the teacher, what is the reason for thinking so?

1. () Experience enables the teacher to have a better understanding of industrial needs and processes
 2. () Helps the teacher in guidance and counseling of students
 3. () Other (Explain) _____
 4. () Industrial experience is not important to the teacher

22 What degree of importance is industrial experience to the teacher?

1. () Not necessary for teaching industrial arts
 2. () Helpful but not necessarily important
 3. () Should be required for teaching industrial arts
 4. () Other (Explain) _____
-

23 If you are teaching, what types of industrial experience if any, would be helpful to you in performing your duties?

1. _____
 2. _____

() Not teaching at present time

24 If you are teaching, do you have additional part-time employment?

1. () Yes
 2. () No
 3. () Does not apply

25 If you do have additional employment other than your teaching, what is the nature of this employment? (Specify title and duties performed) _____

() Not teaching at present time

26 After graduation from college, did you have any problems adjusting to the conditions of your employment, which would reflect lack of preparation in your major field? (Such as, having a weak background in drafting principles, etc.)

1. Yes (If yes, specify nature of problem

2. No

27 List the areas of industrial arts that are of most importance to you in your present employment.

28 What promotion have you received since graduation from North Texas State University?

1. None
 2. Job promotion
 3. Salary advancement
 4. Job promotion and salary advancement
 5. Other _____

29 How long were you employed before receiving a promotion, if any? (Specify time) _____

Does not apply

Beginning with the first employment after graduation, list your employment experiences. Include time spent in Armed Services, part-time work and self employment. All information will be treated confidentially and will be revealed only in statistical form in tables and graphs.

30

Type of Work	Reason for selecting employment	Dates From---To	Annual Salary	Reason for leaving

If you are working or have worked in fields outside that of education, please supply the required information concerning your employer.

31

Name of Employer	Type of Business	Total number of employees

WORK EXPERIENCES OF 1956-1965 INDUSTRIAL ARTS GRADUATES OF NORTH TEXAS STATE UNIVERSITY

Please supply the information by checking (✓) the appropriate response or by writing the information in the blank. Please answer all questions. Feel free to make comments where you feel they are necessary.

Name _____
 Last First Initial Age

Present Address _____
 Street & Number City State

Name of Employer _____

Duties you perform (Specify in detail) _____

What is your present marital status?

1. () Single
2. () Married
3. () Separated
4. () Divorced
5. () Widowed

If married, how many children have you? (Specify number of boys and number of girls)

1. () No children
2. () Boys
3. () Girls

- 1 Had you attended other colleges previous to enrollment at North Texas State University?
 1. () Yes
 2. () No
- 2 If you attended other colleges before entering North Texas State University, what type of college did you attend?
 1. () Junior college
 2. () Senior college
 3. () Does not apply
- 3 If you attended other colleges, previous to enrollment at North Texas State University, how long did you attend those schools?
 1. () 1 year
 2. () 2 years
 3. () Other (Specify time) _____
 4. () Does not apply
- 4 When did you choose industrial arts as your major field of college study?
 1. () High school years
 2. () First year in college
 3. () Second year in college
 4. () Other (Specify) _____
- 5 What were the chief factors influencing you to select industrial arts as your major field of study in college? (Please do not check more than two, number first choice "1", second choice "2")
 1. () Advice of family
 2. () Advice of a friend
 3. () Advice of a teacher
 4. () Previous work experience
 5. () Interest in this type of work
 6. () Industrial Arts experience in high school
 7. () Other influence (explain) _____

- 19 After graduation from college, did you have any problems adjusting to the conditions of your employment, which would reflect lack of preparation in your major field? (Such as, having a weak background in drafting principles, etc.)
1. Yes (If yes, specify nature of problem)
- _____
- _____
- _____

- 21 List the areas of industrial arts that are of most importance to you in your present employment
- _____
- _____
- _____

- 20 Was the industrial arts degree acceptable as meeting the entry requirements into your field of employment?
1. Yes
2. No

- 22 What promotion have you received since graduation from North Texas State University?
1. None
2. Job promotion
3. Salary promotion
4. Job promotion and salary advancement
5. Other (Specify) _____

- 23 How long were you employed before receiving a promotion? (Specify time) _____

Beginning with the first employment after graduation, list your employment experiences. Include time spent in Armed Services, part-time work and self employment. All information will be treated confidentially and will be revealed only in statistical form in tables and graphs.

24

Type of work	Reason for selecting employment	Dates From---To	Annual Salary	Reason for leaving

Using the information in the preceding table, please supply the information concerning your employers since graduation from North Texas State University. List only those employers not related to the field of education.

25

Name of Employer	Type of Business	Total number of employees

- 6 What is the highest degree you have earned since graduating from North Texas State University?
Type of degree _____
(M.S., M.Ed., etc.)
in _____
(Major)
() None
- 7 Are you presently working toward an advanced degree?
1. () Yes
2. () No
- 8 If you are working toward an advanced degree, what is your major?

() Does not apply
- 9 If you have not received, or are not working toward an advanced degree, do you plan to begin work toward one in the future?
1. () Does not apply
2. () Yes
3. () No
4. () Uncertain
- 10 Had you worked previous to enrolling at North Texas State University?
1. () Yes (If yes, specify title or position and duties performed)

2. () No
- 11 Did you work while attending college? (Check all that apply)
1. () Part-time
2. () Full-time
3. () Did not work while attending college
- 12 If you worked while attending North Texas State University, what were the duties performed? (Specify title and duties)

() Did not work while attending college
- 13 Through what methods did you gain your first employment, after graduation from college?
1. () Interviews on campus
2. () Interviews (personal) off campus
3. () Through a friend or some member of the family
4. () Through the help of some member of the faculty at North Texas State University
5. () Placement office at North Texas State University
6. () Other (Specify)

- 14 Do you plan to continue with your present employment?
1. () Yes
2. () No
3. () Undecided
- 15 If you are considering changing jobs, what is the reason for wanting to do so?
1. () Does not apply
2. () Not satisfied with present employment
3. () Higher Salaries elsewhere
4. () Better opportunities in other employment
5. () Other (Explain)

- 16 If you are considering changing employment, what area of employment will you enter?
1. () Does not apply
2. () Teaching employment
3. () Industrial employment
4. () Undecided
5. () Other _____
- 17 Do you wish that you had completed the requirements for a teaching certificate?
1. () Yes
2. () No
- 18 Do you plan to complete the requirements for the teaching certificate?
1. () Yes
2. () No
3. () Undecided

Appendix D - Reminder letter sent to those graduates who had not responded to initial mailing on or before June 2, 1969.

APPENDIX D

June 2, 1969

Dear Graduate:

Recently you received a questionnaire form concerning the employment status of 1956-1965 industrial arts graduates of North Texas State University. A large number of the graduates have responded to the request for information. However, our records indicate that your response has not been received.

In order that the study might be more complete, the information is needed from you. Therefore, would you please complete and return the questionnaire.

Thank you for your participation in this study.

Sincerely yours,

Lowell R. Miller
Graduate Student

Appendix E - Final follow-up letter mailed to graduates
June 9, 1969.

APPENDIX E

June 9, 1969

Dear Graduate:

Recently you received a questionnaire form concerning the employment status of 1956-1965 industrial arts graduates of North Texas State University. Possibly you have misplaced the questionnaire form which was mailed to you. Please complete and return the enclosed questionnaire while it is at hand and has your attention. In order for the study to provide sound conclusions, information is needed about you.

Enclosed also, is a self-addressed, stamped envelope for your convenience in returning the completed questionnaire form.

Thank you for your participation in this study.

Sincerely yours,

Lowell R. Miller
Graduate Student

Enc.

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