A STUDY TO DETERMINE THE ADEQUACY OF THE CURRICULUM
IN THE TECHNICAL-INDUSTRIAL DEPARTMENT
AT TYLER JUNIOR COLLEGE

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By

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

CHAPTER I

INTRODUCTION

Recent changes in manpower requirements and qualifications in industry have extended a dramatic challenge to this nation's educational institutions. Even now, the scope of this challenge is clear enough to call for widespread response on the part of American education, particularly that of post-secondary technical-vocational education.[1] In reference to the challenge, Logan Wilson, President of the American Council on Education, stated as follows:

> Vocational and technical education have recently assumed a new importance in this country. The dramatic rise in youth unemployment and underemployment, the shortage of badly needed personnel in many technical, semiprofessional, and skilled occupations, and continuing and continuing education needs of workers [illegible] automation, and the rising demand for new educational opportunities . . . at the . . . postsecondary level have forced a reexamination of this nation's . . . occupational education.[2]

In a booklet published by the American Association of Junior Colleges, the need was expressed for re-evaluation of [illegible] and vocational education because "rapid changes in technology

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[1] Grant Venn, Man, Education, and Work (Washington, 1964), p. 1.

[2] Logan Wilson, "Foreword," Edu. Education, and [illegible] (Washington, 1963), p. v.

mandate continuous revision of technical instruction."[3] Feed-back of information from recently employed students can provide one of the best means of obtaining an evaluation of the relevance of course content, instructional emphasis, and demands of employment.

Purpose of the Study

The major purposes of this study were to gather information on the employment status and location of students who completed four or more courses in the technical-industrial program at Tyler Junior College, Tyler, Texas; to identify factors that influenced them in selecting Tyler Junior College and taking courses in the technical-industrial program; to ascertain in some measure the effectiveness of the training these students received in preparing them for the positions they have held and now hold; and to secure data and information which the faculty and administration at Tyler Junior College may use in evaluating the present program with respect to future changes and improvements. More specifically the study seeks answers to the following questions:

1. What are the main factors influencing students to enter Tyler Junior College?

2. Are the students receiving the type of preparation which permits them to move into their occupational endeavors with confidence and assurance?

3. How effective is the placement program in the placement of students who receive training in the technical-vocational program [illegible]?

[3]Thomas J. O'Co[illegible] [illegible] A Tool for [illegible] [illegible]

4. Does the preparation received at Tyler Junior College enable students to receive substantial salaries when employed?

5. Do the students continue to advance within their field of employment?

6. What percentage of the former students entered an occupation not related to their major field of preparation at Tyler Junior College?

7. Are the students continuing their education after leaving Tyler Junior College?

8. What are the students' opinions and attitudes concerning the type of education they received at Tyler Junior College?

Limitations of the Study

This study was limited to the students who completed at least four courses, or twelve semester hours, in the area of drafting, electronics, petroleum, or surveying during the school years beginning in 1957 and ending in 1966. Due to a curriculum change in the electronics program in 1965, only the school years between and including 1959-1965 were considered in that particular area. The school records revealed that 5[illegible] students had completed a minimum of twelve semester hours in one of the aforementioned courses, and a questionnaire was mailed to each of these. A total of 274, or 53.1 per cent, of the forms were returned; and data obtained from the 243 useable ones furnished the basis for this study. No attempt was made to evaluate the effectiveness of the administrative and teaching personnel or methods of instruction employed by individual faculty members.

Need for the Study

The growth of man is measured by his ability to accept change. An educational institution may also measure its progress in this same manner. In respect to this, O'Connor in a publication of the American Association of Junior Colleges stated as follows:

> The need for institutional research in the community junior college is imperative, perhaps even more so than in the four-year institution. Two-year colleges must be especially sensitive to all sociological and technological changes if they are to meet the needs of business and industry and at once satisfy the requirements of students with a broad range of interests, aspirations, and abilities. Moreover, junior colleges have only two years, sometimes less, in which to make an impact on their students. Follow-up, therefore, is an indispensable aid to vitality, efficiency, and productivity of the institution.[4]

The following may also be accomplished as a result of a follow-up study:

> The values according to the institution from complete follow-up service for graduates are great. The alumni become more closely connected with and directly interested in their alma mater. The information obtained serves as one of the bases of analysis of the college programs. The college gains fine public relations materials. And the data provide points for comparison with other institutions.[5]

It is also quite desirable to transmit results of follow-up studies to groups other than the college faculty, such as to inform program advisory committees and to guide future students. This type of study is not, and cannot be, an end in itself

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[4] Ibid., p. 10.

[5] Jack L. Nelson, "Follow-Up Study of Graduates," Journal of College and University Teaching, XIV (Spring, 1964), 111

Consequently, the essential goal of the follow-up study is a college sensitive and attentive to the needs of its students.

In respect to the above stated needs for a follow-up study, it was noted that the Technical-Industrial Department of Tyler Junior College has never initiated an exhaustive study of its former students. Therefore, it was believed by the administrative and instructional staff that there was a definite need for a sound, comprehensive follow-up study of former students of the department.

Post-secondary schools, or junior colleges, in establishing the framework for follow-up studies of technical-vocational students, are primarily concerned with two major problems. The first centers around whether or not the school is serving the community through its various curriculums, and the second revolves around the question as to the adequacy of student preparation in these programs. Such programs should be committed to be responsive to student needs and industrial demands. To achieve these aims requires a full measure of effort by those representing the program; and when these efforts are directed by sound follow-up research, there is no better reason to expect that educators will succeed in performing the tasks set forth by this technological society.

Definition of Terms

The term "course" will be interpreted as "organized subject matter in which instruction is offered within a given

period of time and for which credit toward graduation or certification is usually given."[6]

The term "curriculum" will refer to an over-all plan of the content of specific materials of instruction that the school offers the student by way of qualifying him for graduation or certification or for entrance into a professional or vocational field.[7]

"Technical education" will refer to "education requiring a high degree of specialized knowledge and skill within a semi-professional area of instruction supported by basic general education in mathematics, science, and communication skills."[8]

"Vocational education" describes a program to impart information needed by workers to enter and make progress in employment on a useful and productive basis.[9]

A "former student" will refer to an individual who received training in at least four courses in the Technical-Industrial Department of Tyler Junior College.

The term "respondent" will be used to refer to a former student who answered the request for information in this study.

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[6]Carter V. Good, editor, Dictionary of Education, 2nd ed. (New York, 1959), p. 140.

[7]Ibid., p. 149.

[8]Texas Education Agency, Public Junior Colleges Vocational and Technical Education (Austin, 1965), p. xi.

[9]U. S. Office of Education, "Statement of Policies for the Administration of Vocational Education," Bulletin No. 1 (Washington, 1963), p. 1, cited in J. W. Tuckett and C. O. Gallington, Course Construction in Industrial and Vocational Education (Chicago, 1964), p. 27.

Method of Investigation and Sources of Data

In order to make this study, it was necessary to compile data from two major sources at Tyler Junior College: the Office of the Registrar and the Technical-Industrial Department records. Additional ideas pertinent to the study were obtained from professional books and journals, periodicals, reports, and other studies of a similar nature.

First, class rolls pertaining to courses offered in drafting, electronics, petroleum, and surveying from the period including the school years 1956-1957 through 1965-1966 were obtained from the Office of the Registrar. All names appearing on these rolls and indicating completion of the individual courses were recorded. Each name recorded was followed by a listing of the years in which the student attended the college. Next, a complete alphabetized list was made in order to correlate records of the study with filing procedures of the Office of the Registrar.

A study of each student's microfilmed transcripts was then made to ascertain if he should be included in the study, as well as to obtain home addresses. These addresses were updated by the Technical-Industrial Department records and personal investigation and were finally added to the alphabetized list. Thus, the mailing list for the follow-up study was completed.

A questionnaire was designed to gather data used in the study. Departmental faculty members were asked to

submit suggestions for improving the questionnaire before the final format and contents were established.

On June 3, 1967, questionnaires were mailed to the former students. After approximately two weeks, a reminder post card was mailed to those who had not yet returned their questionnaire. After an additional week those who had still not responded and who lived in the immediate vicinity of Tyler, Texas, were contacted by telephone. One week later another questionnaire was mailed to those who had not yet responded.

Recent and Related Studies

In 1965, Ben H. Wickersham conducted a study to determine the effectiveness of the training of 291 former students of Kilgore College. He concluded that the majority of the students were satisfied with their training. Of those who responded, the majority were employed in the field in which they were trained. Recommendations put forth were (1) more attention should be given to counseling with prospective students before enrolling them in a specialized course of study, (2) an industrial advisory committee should be created to maintain a liason between school and industry, and (3) periodic follow-ups should be initiated.[10]

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[10]Ben H. Wickersham, "A Follow-Up Study of the Former Students, Kilgore College Technical-Vocational Division, 1959-1963," unpublished master's thesis, Department of Industrial Education, East Texas State University, Commerce, Texas, 1965, pp. 62-63.

A study was made in 1961 to determine the effectiveness of the secretarial training program at Tyler Junior College, Tyler, Texas. The data compiled and interpreted through the use of a questionnaire indicated that seventy-five per cent of the former students responding rated their training as " . . . excellent, but . . . were of the opinion that the training program could be improved."[11] Attention was called to the need of closer guidance and counseling on the part of the faculty. Sixty per cent of the students obtained their first job through the college or some employment agency. Other recommendations made were (1) an aptitude test should be given at the beginning of the school year for use in counseling, (2) an advisory committee should be created to maintain close relations between the college and businesses, and (3) periodic follow-ups should be made in order to keep the program up-to-date and effective.[12]

Charles M. Eller concluded in a study made of the semi-professional engineering graduates of Arlington State College in 1957 that that program was meeting its expressed purposes. This was a seven-year follow-up study using questionnaires to secure information on the location and status of the graduates.

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[11]Louise S. Clinkscales, "A Follow-Up Study of Secretarial Students of Tyler Junior College for the Three-Year Period 1958-1960 Inclusive," unpublished master's thesis, Department of Business Administration, East Texas State College, Commerce, Texas, 1961, pp. 46-47.

[12]Ibid., p. 50.

to measure to some degree the effectiveness of the training received, and to secure suggestions for improvements of the semi-professional engineering program.

The findings and interpretations of responses from the graduates were processed and these recommendations were made: (1) the curriculum should be studied to determine feasibility of program expansion and improvement to better meet the needs of the students, (2) course content, as well as methods and techniques of instruction, should be re-evaluated to ascertain if improvements could be made, (3) more counseling and guidance should be given to the students, (4) a college placement office should be established, and (5) periodic studies should be instituted to further determine the effectiveness of the semi-professional engineering program.[13]

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[13]Charles H. Eller, "A Follow-Up Study of the Semi-Professional Engineering Graduates of Arlington State College," unpublished master's thesis, Department of Industrial Arts, North Texas State University, Denton, Texas, 1957, p. 78.

CHAPTER II

CURRENT STATUS OF TECHNICAL-VOCATIONAL PROGRAMS AT THE JUNIOR COLLEGE LEVEL

Special considerations should be given to the current status of technical and vocational education programs at the post-secondary level, especially in the public junior college. In Chapter II particular attention will be directed toward the role, objectives, and recent development of such programs at the junior college level in the nation and in the state.

Role of the Programs

Although it is taught in both junior and senior colleges, technical-vocational training belongs, almost exclusively, to the junior colleges. These programs, developed for the terminal student, are designed to provide skilled workers for industry. Such specialized courses as auto and diesel mechanics, data processing, drafting, electronics, and secretarial training, nursing, civil technology, and many others are offered in technical-vocational programs of junior colleges.

Vocational-technical education offers programs for the whole range of other than professional occupations, as well as giving preparatory training to the student of low academic ability and the potential dropout. It also serves the needs of those who desire to enter the working force in occupations

in engineering and scientific fields. Furthermore, it is one of the most important means of identifying the technically talented student and fostering his abilities.[1]

The needs of society and the changing occupational patterns are reasons for consideration of technical curricula in the junior college. It is estimated that within the next three years occupational patterns in the United States will require fifty per cent of the work force to have had two-year technical and semi-professional studies beyond high school.[2] Rapid expansion of two-year colleges and technical institutes in recent years indicates significant changes in American education. The barrier between high school and college is beginning to break down, and the growth of junior colleges and technical institutes is part of the same picture.[3]

Lamar Johnson, a leading authority on the American junior college, recently said, "There is evidence that preparation for employment is . . . recognized as an important responsibility of the two-year college."[4] Maurice Seay, presently

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[1]U. S. Department of Health, Education, and Welfare, Office of Education, A Review of Activities in Federally Aided Programs: Vocational and Technical Education, Fiscal Year 1964 (Washington, 1966), p. 9.

[2]Richard D. White, "Junior College: A Technical Education Role," Minnesota Journal of Education, XLV (February, 1965), 14.

[3]H. Walter Shaw, "Beyond the High School," Technical Education News, XXVI (May, 1967), inside cover.

[4]B. Lamar Johnson, State Junior Colleges: How Can They Function Efficiently? (Atlanta, 1965), p. 5.

Director of Administration and Higher Education at Michigan State University, realized the increasing importance of post-secondary schools in technical and vocational education when he stated, "It is also the conviction of many educators that the most appropriate institution for training of such personnel [technicians] is the rapidly emerging junior or community college."[5]

In the junior college training can be provided to meet the needs of new occupational areas as well as current occupations. On the other hand, training can be provided for the occupationally displaced and those already in danger of such displacement.

The importance of college level technical and vocational education seems to be destined for continued increase of recent trends. However, the success of these programs will depend upon diligent efforts to bring even better communication between industry and the educational community.

Objectives of the Programs

Clearly defined and closely implemented objectives may well determine the success or failure of the technical institutes. In relation to this, the Texas Education Agency recently clarified its objective of technical education as being ". . . to prepare individuals for employment in various

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[5]Maurice F. Seay, "Grants for Technical Education," Junior College Journal, XXIV (March, 1964), 9.

technical positions usually found within the scope of engineering and scientific fields."[6] It has been suggested by the United States Office of Education that the objective to which all vocational educators should be dedicated is the following:

> To help all people develop their individual interests and abilities for work in occupations requiring less than a baccalaureate degree and for which there is or is expected to be an economic demand; and to encourage and prepare persons for continuing study or for training at a higher level.[7]

Some educators believe that due to rapid advancement of new developments in industrial technology the schools should not attempt to train people for specific technical competence. They would rather see technical-vocational programs preparing students to function in a group of operations all of which have a broad common theme. N. H. Frank, in a recent article, stated that ". . . emphasis should be primarily on the goals rather than on the tools."[8] He opposed "post hole" education; that is, he was against highly specialized vocational and technical training in the post-secondary school. The theory behind this thinking is that schools cannot risk preparing students for just one specific job. Students must receive an

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[6]Texas Education Agency, Public Junior College Vocational and Technical Education (Austin, 1964), p. xi.

[7]U. S. Department of Health, Education, and Welfare, Office of Education, The Youth We Have Yet Served (Washington, 1966), pp. 31-32.

[8]N. H. Frank, "Changing Requirements for Technical Education," American Vocational Journal, XLII (April, 1967), 22.

education technically sound, yet broad enough for entrance into various areas of employment within their field of preparation.

Specific objectives for each course in the broad curriculum of technical-vocational education would be too many to enumerate in this study. However, major objectives of the over-all program can be given. A recent report to John Connally, Governor of Texas, stated it was the purpose of vocational-technical education to implement the following objectives:

> To maintain, extend, and improve existing programs.
>
> To develop new programs in accordance with changing needs.
>
> To make vocational and technical education readily available to all who need it.
>
> To provide vocational education of high quality.
>
> To provide vocational education which is realistic in the light of employment opportunities and which is suited to the needs, interests, and abilities of students.
>
> To provide part-time employment for youths who need the earnings to enter or continue vocational education on a full-time basis.[9]

An analysis of the above objectives indicates that the public junior colleges which offer technical-vocational programs have several objectives that they are especially well suited to achieve. According to Smith and Lipsett, the most important of these are as follows: (1) to prepare graduates for competence in clearly identified technological

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[9]Texas Education Agency, 44th Biennial Report: 1964-1966 (Austin, 1967), p. 68.

occupations or "cluster of jobs," (2) to prepare technical personnel to serve the needs of industry within a geographical area, (3) to provide instruction in the technology of specific industries, and (4) to provide technical education needs of employed adults.[10]

Recent Developments of the Programs

Federal Assistance

Since the passage of the Smith-Hughes Act in 1917, the federal government has continued to increase its interest in vocational and technical education. Examples of this are the George-Barden Act of 1946, authorizing an expenditure of twenty-nine million dollars beyond the perpetual seven million of the Smith-Hughes Act, and the National Defense Education Act of 1958.

More recent developments in legislation have been the Area Redevelopment Act in 1961, and the Manpower Development and Training Act in 1962. Both were enacted under pressure of increasing technological job dislocation. A most significant aspect of Area Redevelopment was that it ". . . recognizes vocational training as an integral part of the attack on the problems facing distressed areas."[11] Importance of the Manpower Development and Training Act was that it expanded

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[10]Leo F. Smith and Laurence Lipsett, The Technical Institute (New York, 1956), pp. 105-106.

[11]Venn, op. cit., p. 119.

the Area Redevelopment Act training concept by recognizing training needs of the new technology to be nationwide, not confined to special areas.

In 1961, the President's Panel of Consultants on Vocational Education was announced. It consisted of twenty-five members. Work was concluded by the panel in November, 1962; and a full report entitled Education for a Changing World of Work was published in the spring of 1963. It was recommended that federal appropriations be increased from fifty-seven million to four hundred million dollars, with post-secondary education receiving fifty million of the increase.[12]

Passage of the Vocational Education Act of 1963 and the amendment of the Manpower Development and Training Act drew even closer the manpower-education relationship. The Vocational Education Act was the most important piece of legislation pertaining to vocational education since the Smith-Hughes Act of 1917, and the President's Panel was most influential in its enactment. In this legislation, both the Smith-Hughes Act and the George-Barden Act were amended and a totally new program was created to supplement them. Under the new law a state was allowed to transfer Smith-Hughes and George-Barden funds from any of the prescribed categories into other occupational programs.[13] Venn pointed out several features combining

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[12]Ibid., pp. 123-124.

[13]Douglas D. Kliever, Vocational Education Act of 1963: A Case Study in Legislation (Washington, 1965), p. 32.

in the Vocational Education Act to ensure that vocational education is kept abreast of labor market realities. He said that the Act stipulated

> —The designated state board for vocational education must periodically review its use of the federal money and justify that use in terms of the current and projected manpower needs of the state.
>
> —The state program must be run in cooperation with public employment services.
>
> —An independent advisory committee is established to advise the U. S. Commissioner of Education on the national administration of the program in the light of relating the program to actual training requirements.
>
> —The legislation requires the appointment in 1966 of a national advisory council to make recommendations to Congress for the improvement of the program.[14]

Another encouraging development for post-secondary technical education was the enactment of the Higher Education Facilities Act of 1963. This bill proved that technical education ". . . now enjoys a clear congressional finding that it is a legitimate and necessary part of higher education, . . . which must now receive a high priority."[15]

Private Grants

In addition to federal legislation, private grants have provided a stimulus for self improvement of vocational-technical programs. In November, 1963, the W. K. Kellogg Foundation made available one million dollars for grants in junior college semi-professional and technical programs.

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[14] Venn, op. cit., p. 125.

[15] Ibid., p. 128.

General purposes of Foundation-supported projects were (1) to increase the supply of competent manpower for middle level occupations in professional and technical fields, and (2) to indirectly promote the further development of comprehensive community colleges.[16]

In 1966, the Kellogg Foundation was joined by the Carnegie Corporation in giving financial assistance to sponsor the Midwest Education Conference. The Midwest Technical Education Center in St. Louis, in cooperation with the American Association of Junior Colleges, invited many outstanding technical education personnel to clarify major issues relating to technical education. Organizational framework provided four broad discussion areas involving the relationship of technical education to (1) society, (2) college administration, (3) curriculum and instruction, and (4) student personnel services. The main feature of this conference was that established leaders in the junior college movement came together to discuss major issues of technical education and to make recommendations to implement continued development and improvement of technical education within the junior college movement. One main outgrowth of the conference was publication of Emphasis: Occupational Education in the Two-Year College.[17]

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[16] Seay, op. cit., 12.

[17] K. C. Skaggs, "Report from St. Louis," Junior College Journal, XXXVII (September, 1966), 40.

In Man, Education, and Work, Grant Venn issued the following challenge to those concerned and involved in junior college education:

> The two-year colleges in America, if they are to assume their proper and effective role in the educational system of the nation, should make vocational and technical education programs a major part of their mission and a fundamental institutional objective.[18]

It was Venn's challenge that prompted the American Association of Junior Colleges to make a proposal to the Kellogg Foundation for additional support of programs in occupational education.[19] As a result of Kellogg's acceptance of the proposal, the American Association of Junior Colleges began "Occupational Education Project."

After the first year in operation, the project was expanded and the Kellogg Foundation gave an additional 684,150 dollars to supplement the 782,500 dollars given at the outset of the Project in 1966. The expansion was needed to (1) include the growing need for curriculum development in public affairs and community services, (2) hold series of consultant workshops for preparing specialists to assist with occupational education programs, and (3) hold annual regional occupational education conferences.[20]

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[18] Venn, op. cit., p. 165.

[19] K. G. Skaggs, Douglas W. Burris, and Lewis R. Fibel, "Report and Forecast: AAJC's Occupational Education Project," Junior College Journal, XXXVII (March, 1967), 23.

[20] Ibid.

State Assistance

In the state of Texas there is evidence of an awareness of the need for technical-vocational education beyond the high school. In 1965, twenty-nine of the State's thirty-two public junior colleges offered some type of technical or vocational program. A recent publication of the Texas Education Agency noted the increased interest in post-secondary occupational programs when it stated that during the period of 1964-1966 (1) Associate Degree nursing programs were started in four schools, (2) new technical curriculum areas were begun in twenty-six junior colleges, and (3) twenty-eight post-secondary area vocational schools were approved for construction.[21]

Due to the progressive attitude of the American Association of Junior Colleges, American Vocational Association, related and interested organizations, private foundations, and interested individuals, technical-vocational education at the junior college level seems destined for continued growth and improvement for many years to come.

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[21]Texas Education Agency, Public Junior College Vocational and Technical Education (Austin, 1964), pp. 3-30.

CHAPTER III

THE TECHNICAL-INDUSTRIAL CURRICULA AT TYLER JUNIOR COLLEGE

Tyler Junior College was established in 1926 as a part of the Tyler Public School System. It operated under this plan with a small enrollment until September 1, 1946. In November, 1945, voters approved the establishment of a new independent Tyler Junior College District, authorized a tax levy for the support of the college, and authorized a bond issue for the erection of a new college plant on its own campus, separating it from the public school system on September 1, 1946. The college's enrollment has increased from less than 200 in 1946 to more than 3,000 students in all divisions in 1967.

The principle role of the school is community service through education. To accomplish this, these general objectives have been set forth:

1. To offer two years of fully accredited work toward a degree in fields such as liberal arts, engineering, business administration, home economics, and agriculture, or toward a professional degree in medicine, law, dentistry, nursing, et cetera.

2. To prepare students in one and two-year commercial courses for careers in business leading to responsible positions.

3. To promote an adult education program in the Evening College, offering courses for academic credit and specific courses meeting practical and cultural needs of the community.

4. To offer terminal vocational, technical, and distributive education programs designed to qualify students for initial entry, readjustment, or promotion in productive employment.

5. To provide counseling and guidance services for students and adults in all phases of school and community life.[1]

History of the Technical-Industrial Department

To meet expanding demands of industry for qualified personnel, Tyler Junior College established a Technical-Industrial Department in 1952. The purpose of this department was to offer vocationally-oriented areas of study for those who needed to develop high degrees of technical or occupational skills as an aid to gainful employment.

In the early 1950's the curriculum in the department consisted of auto mechanics, machine shop, cabinet making, welding, and radio-television repair. By 1957 the first four of the aforementioned courses had been dropped because of the following reasons:

1. High school graduates were difficult to recruit into these programs.
2. After the students had completed the programs, they had to serve an apprenticeship before receiving wages that would compensate them for their schooling. (In other words, proper credit in dollars was not received for their training.)

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[1]Tyler Junior College, "The Philosophy and Objectives of Tyler Junior College," mimeographed statement, undated, from the files of the president of the college, cited in Ralph R. Fields, The Community College Movement (New York, 1962), pp. 214-215.

3. These programs were expensive to operate and more difficult to maintain.[2]

Other programs were added, however, so that by 1957 the curriculum included drafting, petroleum, surveying, and radio-television repair. These additions were made chiefly to meet the needs and demands of the petroleum industry in the East Texas area.

The objectives of these programs have remained the same since 1957 with the exception of radio-television repair. The scope of that particular program was revised in 1959 to encompass a much broader approach to the study of electricity and electronics. Sufficient change was made to require altering the name of the program to electronics.

A recent development was that an advisory council and advisory committees were formed to bring about a very close relationship between the school and the industrial life of Tyler and the East Texas area. These were composed of representatives from business and industry in both labor and management. The council was to function in the capacity of advising in the planning of the over-all technical curriculum, whereas the committees were to be concerned with separate areas of study within the curriculum. These advisors have provided valuable recommendations to the department as to

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[2]Letter from Forest E. Griffin, director, Technical-Industrial Department of Tyler Junior College, Tyler, Texas, August 16, 1967.

the areas of work, the levels of instruction, the standards of performance and other factors of pertinence.

Objectives of the Technical-Industrial Department

The Technical-Industrial Department strives to provide necessary technical knowledge and manipulative skills needed for direct entry into the field for which the student is prepared. A competency of sufficient depth is required so that the graduate may be employed in one of a cluster of related work opportunities in his field. More specifically, the objectives of the department are to assist a student to (1) earn a living in a semi-professional technical occupational field; (2) develop proper attitudes and responsibilities concerning his work; (3) develop the capacity for participation in local government and the ability to assume other community responsibilities; and (4) develop appreciations and interests that are personally rewarding.

Programs of the Technical-Industrial Curriculum

The college, recognizing the need and importance of speaking and writing skills, requires that general education courses and communication skills be included in each technical student's course of study. The degree of Associate in Applied Engineering is conferred upon students who complete a total of twenty-four semester hours in required concentrations in either drafting, electronics, petroleum, or surveying; six semester hours each in government, history, and

English; fifteen semester hours in mathematics and science; and three semester hours in speech. Those students satisfactorily completing certain courses of a vocational nature or those satisfactorily completing technological courses without taking liberal arts courses for a degree are awarded certificates of proficiency.[3]

Drafting Technology

Table I presents the two-year drafting program that is designed to provide technical preparation supplemented with related technical knowledge to allow the graduate to enter

TABLE I

PROGRAM FOR DRAFTING TECHNOLOGY

First Year			
First Semester	Cr.	Second Semester	Cr.
Engineering Drawing	3	Architectural Drawing	3
Freehand Drawing	3	Mechanical Drawing	3
Composition and Rhetoric	3	Technical Report Writing	3
Applied Mathematics	3	College Algebra	3
United States History	3	United States History	3
Total	15		15
Second Year			
Machine Drawing	3	Map Drafting	3
Descriptive Geometry	3	Plane Surveying	3
American Government	3	State Government	3
Trigonometry	3	Speech	3
Elementary Physics	3	Basic Electronics	3
Total	15		15

[3]Tyler Junior College, Annual Catalogue, 1965-1966, with Announcements for 1966-1967 (Tyler, Texas, 1966), pp. 16-17.

the drafting profession as a qualified draftsman. More specifically, the program offers training in (1) the basic fundamentals of orthographic and pictorial projection, (2) freehand drawing and sketching, (3) architectural planning and detailing, (4) applied engineering cost analysis, (5) mapping and surveying, (6) jig and fixture design, (7) printed circuit layout, and (8) engineering descriptive geometry. Related information is provided to students through the use of professional journals, films, field trips, and resource persons.

Electronics Technology

The two-year electronics technology program is presented in Table II. The courses are arranged in a workable sequence suitable to the instructional needs of students with an appropriate balance between technology courses, general education courses, and laboratory applications. Areas of specialization are offered in both communications and industrial instrumentation. The program is designed to provide specialized technical preparation augmented with related technical knowledge which prepares the graduate to enter the electronic industry as a qualified technician. Areas of instruction are adapted to offer preparation in (1) basic physics of the electron, electric units, and Ohm's law; (2) direct current generators, motors, and controls; (3) use of electrical measuring equipment; (4) methods of vector algebra;

TABLE II

PROGRAM FOR ELECTRONICS TECHNOLOGY

First Year

First Semester	Cr.	Second Semester	Cr.
DC and AC Circuits and Machines	2	Vacuum Tube and Transistor Circuit Design	2
Basic Electronics	3	Industrial Control	2
Basic Electricity Lab	3	Basic Electronics Lab	3
Composition and Rhetoric	3	Technical Report Writing	3
Applied Mathematics	3	College Algebra	3
United States History	3	United States History	3
Total	17		16

Second Year-Communications Option

Electronic Communications	3	Advanced Communications	3
Advanced Electronic Lab	3	Advanced Communication Lab	3
Engineering Drawing	2	Trigonometry	3
Elementary Physics	3	Speech	3
American Government	3	State Government	3
Total	14		15

Second Year-Industrial Instrumentation Option

Automatic Controls	3	Industrial Electronics Instruments	3
Industrial Instrumentation Lab	3	Advanced Instrumentation Lab	3
Engineering Drawing	2	Trigonometry	3
Elementary Physics	3	State Government	3
American Government	3	Speech	3
Total	14		15

(5) principles of vacuum tubes and transistors and tuned circuits and basic circuits; and (6) engineering drawing with emphasis upon electrical circuitry.

Petroleum Technology

The two-year program shown in Table III is the pattern suggested for students planning to enter the petroleum industry in the field of exploration and development. Petroleum

TABLE III

PROGRAM FOR PETROLEUM TECHNOLOGY

First Year			
First Semester	Cr.	Second Semester	Cr.
Petroleum Development	2	Oil Field Records	1
Rotary Drilling Fluids	2	Production Methods	2
Drilling Equipment Lab	2	Blueprint Reading	1
Composition and Rhetoric	3	Production Equipment Lab	2
Applied Mathematics	3	Technical Report Writing	3
United States History	3	College Algebra	3
		United States History	3
Total	15		15
Second Year			
Introduction to Petroleum Industry	3	Geophysical Methods	2
Well Logging Methods	1	Planetable Surveying for Geophysics	1
Petroleum Lab Methods	2	Natural Gas Production	2
Elementary Physics	3	Hydraulics for Petroleum Technologists	1
Basic Electronics	3	Map Drafting	3
American Government	3	State Government	3
		Trigonometry	3
Total	15		15

majors have available to them preparation in four broad areas: exploration, development, marketing, and construction and maintenance. The petroleum technology program was established with the advice and cooperation of employers and workers in the oil fields to provide preliminary preparation for workers in various aspects of petroleum development and production. The program includes instruction in (1) locating, drilling, and maintaining wells; and (2) handling and refining petroleum products. Although scientific background and related information is included in the courses, major emphasis is upon oil field operations.

Surveying Technology

Surveying, a two-year program providing preparation in various aspects of civil technology, is designed to qualify a graduate to serve as a technical assistant for professional civil engineers and registered surveyors. More specifically, the program provides instruction to students in the following areas: (1) use of surveying instruments, including the tape, level, transit, and planetable; (2) taking and interpreting field notes; (3) office machine calculations; (4) legal aspects of surveys and deed descriptions; and (5) map drafting, including the use of the planimeter. Films, field trips, and resource people are used to supplement classroom instruction with related information. The program for surveying is presented in Table IV.

TABLE IV

PROGRAM FOR SURVEYING TECHNOLOGY

First Year

First Semester	Cr.	Second Semester	Cr.
Elementary Surveying	6	Plane Surveying	6
Composition and Rhetoric	3	Technical Report Writing	3
Applied Mathematics	3	College Algebra	3
United States History	3	United States History	3
Total	15		15

Second Year

Plane Surveying	6	Route Surveying	6
Trigonometry	3	Map Drafting	3
American Government	3	State Government	3
Elective	3	Speech	3
Total	15		15

In summation, this chapter has dealt with the history and objectives of both Tyler Junior College and its Technical-Industrial Department. Tables were used to present the two-year course of study for each of the technical programs, and each one was briefly described.

CHAPTER IV

PERSONAL DATA AND WORK EXPERIENCES OF THE RESPONDENTS

The data presented in this chapter reveal information pertaining to the 268 former students of Tyler Junior College who answered the questionnaire form mailed to each of them. Records in the Office of the Registrar provided information concerning the selection of students to be included in the follow-up, their major field of preparation, and the year in which their attendance was terminated. Other data were secured from the questionnaire form, which included geographical location, age, and work experience of the respondents while in school. Data also revealed the reasons they attended Tyler Junior College, what field of study they first selected, and why they entered the technical curriculum.

Number of Former Students

Students selected for this study were those who were in attendance for at least one full school year or who had completed at least twelve semester hours of work in any one of four major study areas offered by the Technical-Industrial Department from 1957 through 1966. Table V presents data concerning the number of former students in the four areas and those of that number who responded to the questionnaire.

TABLE V

YEARLY DISTRIBUTION AND COURSE OF STUDY OF FORMER STUDENTS

Class Year	Respondents					
	Drafting			Electronics		
	Tot.*	No.	%	Tot.	No.	%
1957	16	7	43.8	. . .	. . .	. . .
1958	18	14	77.8	. . .	. . .	. . .
1959	19	14	73.7	17	8	47.1
1960	30	18	56.7	9	2	22.2
1961	23	15	65.2	11	5	45.5
1962	35	22	62.9	7	5	71.4
1963	18	7	38.9	21	8	38.0
1964	32	18	56.3	10	5	50.0
1965	31	20	64.5	27	9	33.3
1966	35	21	60.0	11	7	63.6
Total	257	156	60.7	113	49	43.4

*"Tot."--number of former students, "No."--number of respondents, "%"--per cent of response.

TABLE V--Continued

Respondents

Petroleum			Surveying			Totals by Year		
Tot.	No.	%	Tot.	No.	%	Tot.	No.	%
. . .	. . .	. . .	3	1	33.3	19	8	47.4
1	1	100.0	6	2	33.3	25	17	68.0
13	7	53.8	6	2	33.3	55	31	56.4
10	2	20.0	6	1	16.7	55	23	41.8
9	1	11.1	6	2	33.3	49	23	46.9
2	1	50.0	10	4	40.0	54	32	59.3
4	3	75.0	12	8	66.6	55	26	47.3
14	9	64.3	7	3	42.8	63	35	55.5
10	4	40.0	4	1	25.0	72	34	47.2
10	5	50.0	13	6	46.2	69	39	56.5
73	33	45.2	73	30	41.1	516	268	51.9

There were 274, or 53.1 per cent, of the questionnaire forms returned. Of this number only 268 were useable. The greatest return was from former students of the drafting program.

Geographical Location Of Respondents

The geographical location of the respondents is revealed in Table VI. Two hundred thirty-one, or 86.2 per cent, of the 268 respondents resided in forty counties in Texas.

TABLE VI

GEOGRAPHICAL LOCATION OF RESPONDENTS

County of Texas, State or Foreign Country	Respondents	
	Number	Per Cent
County of Texas		
Smith	85	31.7
Dallas	36	13.4
Harris	32	11.9
Wood	6	2.2
Cherokee	5	1.9
Gregg	5	1.9
Nueces	5	1.9
Jefferson	4	1.6
Brazos	3	1.1
Collin	3	1.1
Denton	3	1.1
Galveston	3	1.1
Rusk	3	1.1
Van Zandt	3	1.1
Anderson	2	.7
Bexar	2	.7
Harrison	2	.7
Hopkins	2	.7
McLennan	2	.7
Tarrant	2	.7
Travis	2	.7
Upshur	2	.7
Bell	1	.4

TABLE VI--Continued

County of Texas, State or Foreign Country	Respondents	
	Number	Per Cent
Brown	1	.4
Delta	1	.4
El Paso	1	.4
Franklin	1	.4
Grayson	1	.4
Henderson	1	.4
Johnson	1	.4
Limestone	1	.4
Midland	1	.4
Mitchell	1	.4
Montgomery	1	.4
Nacogdoches	1	.4
Navarro	1	.4
Taylor	1	.4
Trinity	1	.4
Walker	1	.4
Wichita	1	.4
Other States		
California	6	2.2
Louisiana	5	1.9
Oklahoma	4	1.6
Mississippi	3	1.1
Illinois	2	.7
New York	2	.7
Alabama	1	.4
Alaska	1	.4
Arizona	1	.4
Colorado	1	.4
Florida	1	.4
New Mexico	1	.4
New Jersey	1	.4
North Carolina	1	.4
Ohio	1	.4
Virginia	1	.4
Washington	1	.4
Foreign Country		
South Viet Nam	2	.7
England	1	.7
Germany	1	.7
Total	268	100.0

Table VI indicates that a large group, 31.7 per cent, lived in the immediate Tyler area. Also a concentration of respondents was located in Dallas and Harris counties, 13.4 per cent and 11.9 per cent respectively. Only 33 of the former students returning questionnaires lived outside of Texas, and only 4 resided outside the United States. Eighteen states and 3 foreign countries were represented.

Age Distribution of Respondents

Data in Table VII present the age of the respondents. The range was from twenty years to forty-four, with a mean age of thirty years. Not only did four age groups, ages 22 to 25,

TABLE VII

AGE DISTRIBUTION OF RESPONDENTS

Age	Respondents		Age	Respondents	
	Number	Per Cent		Number	Per Cent
20	4	1.4	34	11	4.1
21	23	8.9	35	4	1.4
22	34	12.7	36	2	.7
23	30	11.2	37	4	1.4
24	31	11.5	38	0	.0
25	27	10.1	39	0	.0
26	16	6.0	40	0	.0
27	22	8.2	41	0	.0
28	19	7.1	42	0	.0
29	17	6.3	43	1	.4
30	6	2.2	44	1	.4
31	3	1.1	n. r.*	1	.4
32	7	2.6			
33	5	1.9	Total	268**	100.0***

*"n. r."--not reported
**Total number respondents in both sections of the table.
***Total per cent for both sections of the table.

represent 45.3 per cent of all the respondents, but these age groups also contained the age with the highest percentage of response.

Reasons Respondents Selected Tyler Junior College

The respondents were asked to indicate the most important factors influencing them to attend Tyler Junior College. The data revealed in Table VIII show that 223, or 83.2 per

TABLE VIII

REASONS RESPONDENTS SELECTED
TYLER JUNIOR COLLEGE

Reasons	Respondents	
	Number*	Per Cent**
Convenience or accessibility of the college	223	83.2
Type of courses offered	141	52.6
Influence of friends or relatives	45	16.8
Low tuition	102	38.1
General standing of the college and its reputation for high scholarship	113	42.2
Reputation for placing graduates in good positions	44	16.4
Reputation of the faculty or some individual on the faculty	15	5.6
Relative ease with which requirements for certificate could be met	6	2.2
Other	13	4.8
Total	702	

*Many respondents selected more than one reason.
**Percentage based on 268 respondents.

cent, chose "convenience or accessibility of the college" as the main reason. The second most frequently indicated reason, the type of courses offered, was checked by 141 or 52.6 per cent of the respondents.

Type of Curriculum Respondents First Entered at Tyler Junior College

For recruiting purposes, it was also asked of the respondents to indicate the type of curriculum which they first entered at the junior college. Figure 1 reveals that of the three which could have been entered, the majority decided to major in technology at the start of their college

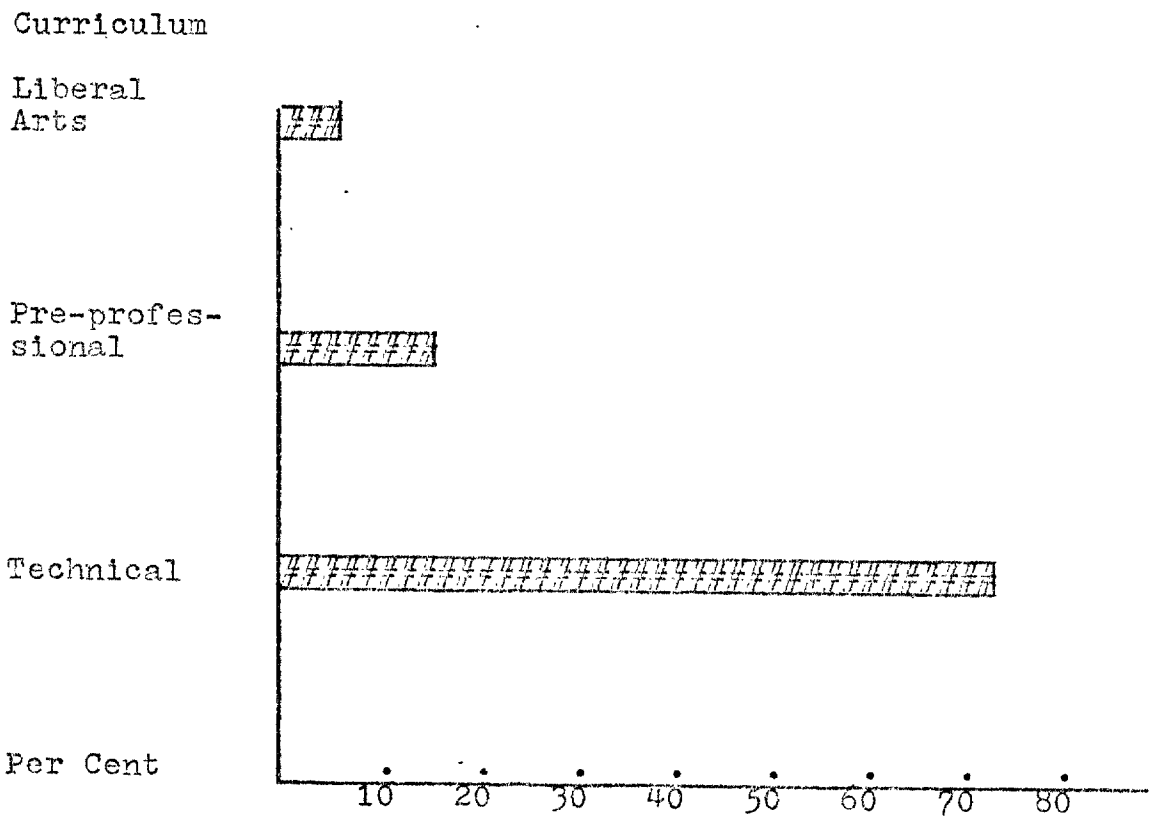

Fig. 1--Type of curriculum that respondents first entered at Tyler Junior College.

education. This percentage was 76.1, or 204 students. Those who later changed from liberal arts to the technical curriculum numbered 17, or 6.3 per cent. Those who transferred from pre-professional totaled 47, or 17.6 per cent.

Factors Influencing Selection of Technology As a Major Field of Study

It was considered important to know not only how many selected technology, but also why they selected it as a major field of study. Table IX reveals the factors influencing this decision. To better assist school personnel in recruiting future students, the information for the table was categorized into the four main programs of study in the technical-industrial curriculum.

More than three-fourths selected "interest in this type of work" as the main influencing factor. This was rated highest in each program. It was interesting to note that the second factor of importance in drafting was "availability of job opportunities," whereas the respondents in the other three programs selected "work experience" as their second highest choice.

Many of the respondents indicated more than one influencing factor. However, the percentages shown in Table IX are based on the number of respondents rather than on the total number of responses.

TABLE IX

CHIEF FACTORS INFLUENCING SELECTION OF TECHNOLOGY AS MAJOR FIELD OF STUDY

Chief Factors	Respondents					
	Drafting	Electronics	Petroleum	Surveying	Total	
					No.*	%**
Advice of family	7	2	5	5	19	7.1
Advice of a friend or friends	25	4	5	6	40	14.9
Advice of a teacher	10	1	1	1	13	4.9
Advice of a counselor	6	1	4	3	14	5.2
Work experience	20	14	7	8	49	18.3
Interest in this type of work	126	35	25	19	205	76.5
High school industrial arts experience	38	1	1	1	41	15.3
Military experience	2	6	1	1	10	3.7
Availability of job opportunities	50	12	7	5	74	27.6
Other	4	0	2	0	6	2.2

*Many respondents indicated more than one factor.
**Percentages are based on 268 total respondents.

Part-Time Work Experience

So that the Technical-Industrial Department could gather additional data on part-time employment opportunities, the respondents were asked to give information concerning the part-time jobs they had while attending Tyler Junior College. It was indicated that 232, or 86.6 per cent, of those responding worked while they were enrolled at the college; but only 60, or 24.7 per cent, worked in the same type of field as the one for which they were preparing through their major course of study to enter later. Thirty-three, or 13.6 per cent, worked in a related field and 149, or 59.9 per cent, worked in a completely different field.

As data indicates in Table X, 71 respondents worked at least 35 hours per week, and 3 replied that they worked over 45 hours per week. Of all those who had part-time jobs, very few were employed less than 10 hours per week. The average was 26 hours per week spent on part-time employment.

A wide range of jobs was held. Among the more common job titles were store clerk, service station attendant, and industrial plant worker. The more unusual titles were law enforcement officer, barber, commercial artist, and tree surgeon. The majority of the students was employed by different individual firms or employers; however, there were 13 respondents who worked for the same company.

TABLE X

HOURS WORKED PER WEEK FOR FINANCIAL SUPPORT WHILE ATTENDING COLLEGE

Hours	Respondents					
	Dft.	Elec.	Pet.	Surv.	Total	
					No.	%
Less than 10	7	1	2	2	12	5.2
10 to 15	19	5	4	1	29	12.5
16 to 20	14	4	5	4	27	11.6
21 to 25	23	6	2	4	35	15.1
26 to 30	23	1	4	0	28	12.1
31 to 35	9	7	3	1	20	8.6
Over 35	34	18	9	10	71	30.6
Not indicated	7	1	2	0	10	4.3
Total	136	43	31	22	232	100.0
Per cent*						86.6
Mean**						26.3

*Per cent of the total respondents who worked part-time while attending college.
**Mean number of hours worked per week.

Education Received Since Leaving Tyler Junior College

The respondents were requested to specify the ways by which they had extended their education since leaving the technical department of the college. Sixteen had returned to attend evening college classes. As indicated in Table XI, 67 had not extended their education in any way. Seventy-two respondents attended schools sponsored by their employer. Fifty-four, or 20.2 per cent, were working either full-time or part-time toward a baccalaureate degree. One was completing requirements for a master's degree, and two were

TABLE XI

EDUCATION RECEIVED SINCE LEAVING
TYLER JUNIOR COLLEGE

Type of Education	Respondents					
	Drafting	Electronics	Petroleum	Surveying	Total	
					No.*	%**
Evening college at Tyler Junior College	11	3	1	1	16	6.0
Working on Bachelor's degree	38	12	1	3	54	20.2
Completed requirements for Bachelor's degree	18	0	3	1	22	8.2
Completed requirements for Master's degree	2	0	0	0	2	.8
Company schools	38	21	12	1	72	26.9
Correspondence school	12	11	1	5	29	10.8
Trade school or technical school program	7	2	2	1	12	4.5
Military (technical-vocational classes)	15	7	4	5	31	11.6
None	32	11	10	14	67	25.0
Other	10	0	4	2	16	6.0
Not indicated	6	1	1	1	9	3.6

*Many respondents indicated more than one choice.
**Percentages are based on 268 total respondents.

enrolled in doctoral programs. Military schools provided a source of additional education for 31, or 11.6 per cent, of the respondents.

To conclude, this chapter was devoted to the presentation of the personal data and work experiences of the respondents. Discussed were the reasons the respondents selected Tyler Junior College, the influencing factors of their curriculum and program selections, and their part-time work experiences.

CHAPTER V

OCCUPATIONAL STATUS OF RESPONDENTS AND FACTORS RELATING TO OCCUPATIONAL CHANGES

Full-time occupational status of the 268 respondents is presented in this chapter. Also revealed are data concerning job procurement and advancements, relationship of preparation to initial employment, reasons for entering occupations unrelated to the area of preparation, and salaries.

Sources That Led to Initial Employment

Table XII indicates the sources through which respondents received information that aided them in securing their initial job after leaving Tyler Junior College. The placement program of the Technical-Industrial Department was credited with having helped 83 of the respondents, or 31.0 per cent, find employment. These included 54 drafting students, 10 students from electronics, 5 from petroleum, and 14 who had taken surveying. Thirty-six others received employment information from school personnel, and 35 obtained the information from a friend. A large number of respondents, 40, checked the item "other." From their explanations it was determined that 10 entered military service, 11 continued their college education, and 6 developed their part-time jobs into full-time occupations.

TABLE XII

SOURCES THAT LED TO INITIAL EMPLOYMENT

Sources	Respondents					
	Drafting	Electronics	Petroleum	Surveying	Total	
					No.*	%**
Through a friend	16	11	4	4	35	13.1
Member of your family	9	3	3	4	19	7.1
School personnel	23	5	7	1	36	13.4
Counselors office	2	0	0	0	2	.7
Private employment agency (to whom you paid a fee)	6	1	0	0	7	2.6
Technical department placement program	54	10	5	14	83	31.0
Texas Employment Commission	6	5	1	2	14	5.2
Personal contact	7	3	5	3	18	6.7
Other	22	10	6	2	40	14.9
Not indicated	14	1	2	1	18	6.7

*Some respondents indicated more than one source.
**Percentages are based on 268 total respondents.

Reasons Respondents Entered Occupations Unrelated to Field of Preparation

The respondents were requested to indicate reasons why they did not take employment within their major area of preparation. Table XIII indicates the reasons given by 71 former students. The main factor influencing a change was that there was a better chance for advancement for these

TABLE XIII

REASONS RESPONDENTS ENTERED OCCUPATIONS UNRELATED TO FIELD OF PREPARATION

Reasons	Respondents					
	Dft.	Elec.	Pet.	Surv.	Total	
					No.*	%**
Salary in other occupation attracted me	15	8	6	3	32	11.9
Better chance for advancement	17	9	5	4	35	13.1
Better working conditions	11	4	3	2	20	7.5
Other occupation offered more security	7	5	4	4	20	7.5
Could not find employment in field of prep.	9	7	6	1	23	8.6
Other	6	4	2	2	14	5.2
Not indicated	7	4	2	1	14	5.2

*Many respondents indicated more than one choice.
**Percentages are based on 268 total respondents.

individuals in an unrelated field. The salary in other occupations attracted the second highest group of those who made a change.

Current Occupations of the Respondents

Table XIV shows the present occupations of the former students of the Technical-Industrial Department. There were fifty-two occupations listed, with job titles ranging from draftsman to water plant operator. The types most frequently indicated were draftsmen-designers and members of the United States armed services. Twelve respondents were full-time students, and four did not give any information pertaining to their employment status. Two were unemployed, and one of these stated that he was disabled.

TABLE XIV

CURRENT OCCUPATIONS OF THE RESPONDENTS

Occupations	Respondents	
	Number	Per Cent
Draftsman-Designer	81	32.1
Member of United States Armed Forces	26	9.7
Student	12	4.5
Electronic Technician	10	3.7
Engineering Technician	10	3.7
Production Plant Employee	10	3.7
Party Chief, Surveying Crew	9	3.4
Seismograph Observer	8	2.9
Self-employed	8	2.9
Public School Teacher	7	2.6
Production Supervisor	6	2.2
Sales Engineer	6	2.2
Service Representative	5	1.8
Chainman, Surveying Crew	4	1.4
Drafting Supervisor	4	1.4
Production Supervisor for Oil Co.	4	1.4
Machinist	3	1.1

TABLE XIV--Continued

Occupations	Respondents	
	Number	Per Cent
Truck Driver	3	1.1
Utility Company Employee	3	1.1
Estimator	2	.7
Equipment Operator, Oil Field	2	.7
Law Enforcement Officer	2	.7
Office Manager	2	.7
Pilot	2	.7
Production Line Inspector	2	.7
Quality Control Chemist	2	.7
Registered Public Land Surveyor	2	.7
Retail Salesman	2	.7
Time Study Engineer	2	.7
Agent for Airline Company	1	.3
Architect	1	.3
Bank Cashier	1	.3
Bookkeeper	1	.3
City Engineer	1	.3
Communications Engineer	1	.3
Construction Inspector	1	.3
Design Engineer	1	.3
Electrician	1	.3
Finance Manager	1	.3
Geologist	1	.3
Industrial Engineer	1	.3
Insurance Inspector	1	.3
Mechanic	1	.3
Offset Printer Operator	1	.3
Off Shore Rig Moving Engineer	1	.3
Oil Landman	1	.3
Oil Scout	1	.3
Power Plant Operator	1	.3
Retail Grocery Clerk	1	.3
Superintendent, City Utility Dept.	1	.3
Vice-President, Chamber of Commerce	1	.3
Water Plant Operator	1	.3
Unemployed	2	.7
Not Indicated	4	1.4
Total	268	100.0

Data Concerning Number of Positions Held

After finding out what the different types of current occupations were, further analysis of each respondent's employment record was made to determine how many changes were made from job to job. The results of the information gained were compiled in Table XV. If a respondent went directly into military service after leaving the junior college and was still in the service, it was counted as one position. When someone was drafted from his job, military service was not included as an occupational change. Those who are still

TABLE XV

NUMBER OF POSITIONS HELD

Last Year of Attendance	Number of Positions								No Response	Total
	1	2	3	4	5	6	7	8		
1957	7	0	0	1	0	0	0	0	0	8
1958	4	2	5	4	2	0	1	0	0	18
1959	12	5	7	5	1	0	0	0	0	30
1960	4	9	4	3	1	1	0	1	0	23
1961	6	11	2	2	1	0	0	0	1	23
1962	11	8	8	3	1	0	0	0	1	32
1963	12	3	7	1	3	0	0	0	0	26
1964	16	11	4	1	3	0	0	0	0	35
1965	18	12	4	0	0	0	0	0	0	34
1966	29	9	0	0	0	0	0	0	1	39
Total	119	70	41	20	12	1	1	1	3	268
%	44.4	26.1	15.3	7.4	4.5	.4	.4	.4	1.1	100.0

students at another college and have never had full-time employment because of furthering their education were counted as having had only one position. Education did not constitute an occupational change for those who worked awhile and then went back to school.

The number of positions held ranged from one to eight during the years 1957 through 1966. One had eight different jobs, with the longest one lasting for two years. Only three indicated they had worked for more than five different companies or employers. It was especially interesting to note that 70.5 per cent had held not more than two different positions; hence, the average number of positions held during the ten-year period of the study was 1.75.

Beginning Salaries of Respondents

Data concerning the beginning salaries earned by 176 full-time workers are shown in Table XVI. The respondents excluded from this consideration were those who were fulfilling their military obligation, those who were attending college, those who did not respond to the question, and those who were working in fields unrelated to their junior college preparation.

Only one respondent had a beginning salary of less than $2,000, this being earned in 1958. Three former petroleum technology students indicated that they began at approximately $8,400; but it should be noted that one of these had furthered

TABLE XVI

DATA CONCERNING BEGINNING ANNUAL SALARY OF RESPONDENTS FROM 1957 THROUGH 1966

Program and Salary	Year of Initial Employment										Total	
	'57	'58	'59	'60	'61	'62	'63	'64	'65	'66	No.	%
Drafting												
$1,000-1,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
2,000-2,999	. .	. .	1	3	. .	2	. .	. .	. .	. .	6	3.4
3,000-3,999	. .	4	6	3	5	2	. .	2	1	3	26	14.8
4,000-4,999	1	2	2	3	3	3	1	3	5	1	24	13.6
5,000-5,999	2	1	2	3	2	4	3	4	1	5	27	15.3
6,000-6,999	. .	1	. .	. .	1	2	1	1	7	4	17	9.7
7,000-7,999	. .	. .	. .	. .	. .	. .	. .	. .	2	3	5	2.8
8,000-8,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
Electronics												
1,000-1,999	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	.6
2,000-2,999	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1	.6
3,000-3,999	. .	. .	. .	. .	. .	1	1	. .	1	1	4	2.3
4,000-4,999	. .	. .	3	1	. .	1	1	2	2	. .	10	5.7
5,000-5,999	. .	. .	. .	. .	3	. .	. .	. .	1	2	6	3.4
6,000-6,999	. .	. .	. .	. .	. .	1	1	1	1	1	5	2.8
7,000-7,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
8,000-8,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
Petroleum												
1,000-1,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
2,000-2,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
3,000-3,999	. .	. .	1	1	. .	. .	. .	1	. .	1	4	2.3
4,000-4,999	. .	. .	1	1	. .	. .	. .	2	. .	. .	4	2.3
5,000-5,999	. .	. .	2	. .	1	. .	1	1	. .	. .	5	2.8
6,000-6,999	. .	. .	1	. .	. .	. .	. .	. .	1	1	3	1.7
7,000-7,999	. .	. .	. .	. .	. .	1	. .	. .	1	1	3	1.7
8,000-8,999	. .	. .	. .	. .	. .	. .	. .	1	1	1	3	1.7
Surveying												
1,000-1,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
2,000-2,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
3,000-3,999	. .	. .	. .	. .	1	. .	2	. .	. .	. .	3	1.7
4,000-4,999	. .	1	1	1	. .	2	4	1	1	. .	11	6.3
5,000-5,999	. .	. .	. .	. .	. .	1	1	. .	. .	4	6	3.4
6,000-6,999	. .	. .	. .	. .	. .	2	. .	. .	. .	. .	2	1.1
7,000-7,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
8,000-8,999	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	0.0
Total											176	100.0

his education by completing a baccalaureate degree before taking his first full-time employment, while another was earning union wages in a specialized related occupation. The third one was an assistant in offshore oil exploration.

The average beginning salary of all the respondents amounted to $4,774. By fields of preparation the average was as follows: drafting, $4,656; electronics, $4,569; petroleum, $5,557; and surveying, $4,694. In order to compare these with the national average, the most recent years for which data were available were chosen, the years 1964 and 1965. In private industry, persons in beginning drafting positions across the nation earned a salary of about $350 a month, or $4,200 per annum in early 1964.[1] This compares to $4,770 earned by former drafting students of Tyler Junior College during that same year. Annual starting salaries for electronic technicians averaged about $5,000 in private industry in 1964,[2] but those of this study who were working in electronics that year earned $4,825.

Statistics also brought out that "earnings in the petroleum industry are among the highest in American industry. In mid-1965, earnings of nonsupervisory personnel averaged $115.51

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[1]U. S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1966-67 ed. (Washington, 1967), p. 229.

[2]Ibid., p. 227.

per week."[3] The yearly total was $6,006.52. Those in this study who worked in that occupation in 1965 received approximately $7,400. Finally, in early 1965 the national average starting salary for surveying technicians was about $400 per month,[4] and the one respondent from surveying that year received exactly the same amount.

Current Salaries of Respondents

Table XVII reveals data pertaining to the present annual salaries of 158 respondents. Those included in this table were employed full-time in an occupation related to their preparation at the junior college. The exclusions made in this section were based on the same terms used while tabulating the beginning salaries.

The lowest annual income was $3,000, and six respondents or 3.8 per cent indicated that they were in this salary range. The highest percentage had incomes between $6,000 and $7,000, whereas the average annual salary was $7,185.

Ten of those who responded were presently earning over $10,000 per year. This group as a whole had an average of five years experience in their respective types of employment. Two of the ten were employed by the same company. Further analysis of the data revealed that the two highest paid hired employees received $12,000 and $14,000 current

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[3] Ibid., p. 727.

[4] Ibid., p. 274.

TABLE XVII

DATA CONCERNING CURRENT ANNUAL SALARIES OF RESPONDENTS

Salary	Respondents					
					Total	
	Dft.	Elec.	Pet.	Surv.	No.	%
$3,000- 3,999	3	1	2	0	6	3.8
4,000- 4,999	4	3	0	2	9	5.7
5,000- 5,999	14	5	5	5	29	18.3
6,000- 6,999	24	6	5	2	37	23.4
7,000- 7,999	23	4	2	3	32	20.3
8,000- 8,999	17	3	2	1	23	14.5
9,000- 9,999	8	0	4	0	12	7.6
10,000-10,999	3	1	1	0	5	3.2
11,000-11,999	1	1	0	0	2	1.3
12,000-12,999	2	0	0	0	2	1.3
13,000-13,999	0	0	0	0	0	.0
14,000	0	0	1	0	1	.6
Total					158	100.0
Mean*					$7,185	

*The mean is based on a total of 158 respondents.

annual salary and had three and four years of work experience, respectively. One of these had been employed continuously by the same company, whereas the other had worked for three different employers. The other respondent who indicated earnings of $12,000 annually was a self-employed architect.

In summation, this chapter dealt with data concerning the regular employment status of former students of the Tyler Junior College Technical-Industrial Department. Discussed were sources by which they obtained their first work, how many positions they had held, and their present work and salaries.

CHAPTER VI

APPRAISAL BY RESPONDENTS OF THEIR PREPARATION RECEIVED AT TYLER JUNIOR COLLEGE

The purpose of this chapter is to present data and information concerning the respondents' opinions as to the preparation they received, its relationship to their present occupation, the courses taken that were most beneficial, and the new courses suggested as a result of their current employment.

Respondents' Evaluation of Preparation

The former students were asked if the preparation they had received in the technical-industrial department had adequately prepared them for entrance into their area of employment. Of those responding to the question, 172, or 64.2 per cent, marked that their preparation at the junior college had "helped greatly." Seventy-six specified that it had helped somewhat, and only 16 indicated that their preparation at the college had helped in no way at all. Four gave no response to the question.

Respondents were also asked to specify courses that had been the most helpful in their occupation. Table XVIII shows

these choices according to the program in which the respondents were enrolled at the junior college.

TABLE XVIII

COURSES INDICATED AS BEING MOST HELPFUL TO THE RESPONDENTS

Program and Courses	Frequency of Responses
Drafting Technology Program	
Mechanical Drawing	84
Engineering Drawing	75
Descriptive Geometry	68
Machine Drawing	48
Map Drafting	40
Plane Surveying	30
Blueprint Reading	28
Architectural Drawing	25
Freehand Drawing	21
Basic Electronics	5
Elementary Surveying	2
Electronics Technology Program	
Basic Electronics	26
Vacuum Tube and Transistor Circuit Design	17
Basic Electronics Laboratory	13
DC and AC Circuits and Machines	11
Electronic Communications	10
Advanced Electronic Communication Laboratory	9
Industrial Electronics Instruments	9
Advanced Electronic Communications	7
Engineering Drawing	6
Basic Electricity Laboratory	4
Industrial Instrumentation Laboratory	4
Advanced Instrumentation Laboratory	3
Industrial Control Electronics	3
Advanced Electronic Communication Laboratory	2
Elementary Surveying	1
Map Drafting	1
Mechanical Drawing	1
Petroleum Technology Program	
Drilling Equipment Field Laboratory	10
Petroleum Development	10
Rotary Drilling Fluids	8
Hydraulics for Petroleum Technologists	6
Introduction to Petroleum Industry	6
Map Drafting	6

TABLE XVIII--Continued

Program and Courses	Frequency of Responses
Production Methods	6
Geophysical Methods	5
Natural Gas Production	5
Petroleum Laboratory Methods	5
Plane Surveying	5
Oil Field Records	3
Production Equipment Field Laboratory	3
Blueprint Reading	2
Machine Drawing	2
Planetable Surveying for Geophysics	2
Basic Electronics	1
Electronic Communications	1
Elementary Surveying	1
Mechanical Drawing	1
Surveying Technology Program	
Plane Surveying, Surv. 216	26
Route Surveying	15
Plane Surveying, Surv. 126	14
Map Drafting	13
Elementary Surveying	11
Engineering Drawing	4
Architectural Drawing	2
Blueprint Reading	2
Freehand Drawing	1
Planetable Surveying for Geophysics	1

The most helpful course offered in the drafting program was revealed to be mechanical drawing. This sophomore level course was selected by 84 respondents. Engineering drawing and descriptive geometry were the second and third most valuable courses. Drafting was helpful in all four programs.

Twenty-six former electronics majors decided that the course in basic electronics had been helpful to them. This course had overlapping value, as it was chosen in all the other areas of preparation except surveying. The study of vacuum tube and transistor circuit design was selected by

17 respondents; and the basic electronics laboratory, the laboratory for the aforementioned basic electronics, was chosen by 13.

Two courses, drilling equipment field laboratory and petroleum development, were indicated to be most useful by an equal number of former petroleum students. Rotary drilling fluids was the next most frequently designated subject.

Surveying was another program that had representation in the selection of courses in each of the other programs. Of the former surveying students, 26 chose Plane Surveying 216, a second year course, as being most helpful. Fourteen selected the freshman level plane surveying course. It should be added, in conclusion, that each of the courses offered in the technical-industrial curriculum was indicated as being helpful in the preparation of at least two respondents.

Courses Needed Most in Present Employment

The respondents were asked to list the areas of training that were most needed in their present employment and that were either not taken or not offered while they attended Tyler Junior College. This information, contained in Table XIX, shows the respondents' choices according to their major area of preparation. Some of the courses listed would be the responsibility of the Technical-Industrial Department, whereas other courses mentioned would be the responsibility of various other departments within Tyler Junior College.

TABLE XIX

COURSES RESPONDENTS BELIEVED WOULD BE OF VALUE TO THEM IN THEIR PRESENT EMPLOYMENT

Program and Courses	Frequency of Responses
Drafting	
Mathematics	18
Printed Circuit Layout and Design	16
Electronics	9
Mechanical Design	8
Shop Practices	7
Pipe Drafting	6
Physics	5
Report Writing	5
Surveying	5
Freehand Lettering and Drawing	4
Speech	4
Chemical Processes	3
Civil Engineering	3
Computer Programming	3
Hydraulics	3
Aircraft Designing	2
Architectural Drafting	2
Calculator, Use of the	2
Detail Machine Drawing	2
Ink Work	2
Machine Shop	2
Military Specifications, Study of	2
Stress Calculations	2
Structural Drafting	2
Time Study	2
Architectural Engineering	1
Assembly Drawing	1
Catalogues, Use of	1
Filing Systems	1
Geological Drafting	1
Plant Layout	1
Shrink Rules and Draft Charts, Use of	1
Slide Rule, Study of	1
Technical Illustration	1
Electronics	
Advanced Transistor Circuits	6
Computer Programming	6
Instrumentation and Automatic Controls	3
Mathematics	3
Basic Mechanical Concepts	2

TABLE XIX--Continued

Program and Courses	Frequency of Responses
Microwave Application	2
Precision Instruments	2
Protective Devices	2
Radar Transmitting and Receiving	2
Regulators, Emphasis on	2
Transformers, Emphasis on	2
Basic Modulator Circuits	1
Electrical Power Generation and Distribution	1
Electronics for Geophysical Work	1
Elementary Geology	1
Magnetrons, Applications of	1
Metering Devices	1
Pulse, Didgital, and Switching Techniques	1
Solid State and Transistorized Equipment	1
Systems Analysis	1
Test Equipment Repair and Calibration	1
Petroleum	
Mathematics	7
Electronics	4
Modern Drilling Equipment	3
Chemistry	2
Computer Programming	1
Elementary Geology	1
Offshore Drilling Procedures	1
Oil Property Leasing	1
Physics	1
Public Relations	1
Rotary Drilling Fluids	1
Surveying Instrument Familiarity	1
Well Logging Methods	1
Surveying	
Civil Engineering	4
Deed Note and Patent Note Drawing	4
Mathematics	4
Deed Record Research	3
Surveying Law	3
Record Keeping	2
Alidade	1
Close Order Surveying	1
Control Chain, Use of	1
Route Surveying, Additional	1
Technical Report Writing	1

Among the courses suggested as being needed for present occupations in drafting, mathematics had the highest frequency of response; but it was only two greater than the choice of printed circuit layout and design. Electronics, with nine selections, was the third highest. All of these responses came from draftsmen who were presently employed by either of two major electronic manufacturing companies.

Both advanced transistor circuits and computer programming received the most frequent responses indicated by former electronics majors. Courses in instrumentation-automatic controls and mathematics were each suggested three times.

In the other two programs of study, respondents who had been petroleum majors chose mathematics as the course they needed most; and surveying majors selected three courses. Of the latter, civil engineering, deed note and patent note drawing, and mathematics received four responses each.

Relationship Between Preparation Received and Present Occupation

Table XX reveals information concerning the respondents' ratings of the relationship of their preparation at the junior college to their current employment. The table was designed to present data pertaining to the respondents of each of the four technical-industrial programs.

There were 114, or 42.6 per cent, who thought their present employment was closely related to their preparation

TABLE XX

RELATIONSHIP BETWEEN PRESENT OCCUPATION AND PREPARATION RECEIVED AT TYLER JUNIOR COLLEGE

Relationship	Respondents				Total	
	Dft.	Elec.	Pet.	Surv.	No.	%
Closely related	65	20	14	15	114	42.6
Somewhat	61	18	11	7	97	36.2
Not related at all	20	11	7	6	44	16.4
Other	9	0	0	1	10	3.7
Not indicated	1	0	1	1	3	1.1
Total					268	100.0

received at the junior college. This compares to 44, or 16.4 per cent, whose occupation was not at all related to the type of program they had completed at Tyler Junior College. Those marking "other" included two housewives and one disabled person.

Other opinions and comments were expressed by the respondents concerning their education at the junior college. One opinion that should be mentioned is that seventeen respondents were disappointed to learn after leaving the junior college that their technical course work would not transfer toward a baccalaureate degree. Many of these indicated that some type of counseling and guidance program should be provided to the students as they begin their study in technical-industrial programs.

CHAPTER VII

SUMMARY, FINDINGS, AND RECOMMENDATIONS

Summary

The purpose of this study was to seek answers to the following questions: (1) What are the main factors influencing students to enter Tyler Junior College? (2) Are the students receiving the type of preparation which permits them to enter their occupational endeavors with competence and assurance? (3) How effective is the placement program in the placement of students who receive training in the technical-vocational program and seek employment? (4) Does the preparation received at Tyler Junior College enable students to receive substantial salaries when employed? (5) Do the students continue to advance within their field of employment? (6) What percentage of the former students entered an occupation not related to their major field of preparation at Tyler Junior College? (7) Are the students continuing their education after leaving Tyler Junior College? (8) What are the students' opinions and attitudes concerning the type of education they received at Tyler Junior College?

In Chapter II considerations were given to the current status of technical and vocational education programs in the public junior college. Attention was directed toward the

role, objectives, and recent developments nationally and state-wide of such programs. It was determined that the status of technical-vocational education is steadily improving as a result of clearly defined and well implemented objectives. Continuing federal, private, and state assistance is providing the stimulus for continued growth and improvement.

The purpose of Chapter III was to give attention to the history, objectives, and programs of study in the technical-industrial curriculum of Tyler Junior College. Data revealed that a vocational curriculum was started at the college in 1946. From that beginning, it has evolved into the Technical-Industrial Department, with offerings in drafting, electronics, petroleum, and surveying. Each of these programs has as its objective the preparation of students for entering employment directly after graduation from the college.

Chapter IV presented the personal data and part-time work experiences of respondents, those who completed and returned a questionnaire. Of the 516 former students of the Technical-Industrial Department of Tyler Junior College to whom questionnaires were mailed, a total of 274 returned the forms, or 53.1 per cent. Two hundred sixty-eight forms were useable in this study. A large percentage, 86.2, of the respondents resided in Texas, with 85 living in Smith County, in which the junior college is located.

Data revealed that 223 entered the college due to its convenience or accessibility. A total of 204 indicated that the first curriculum they entered was that offered in the technical-industrial department. More than three-fourths did so because of an interest in that type of work. A very high percentage, 86.6 per cent, of the respondents held part-time or full-time employment while attending the college. Also many of the respondents had extended their education since leaving the junior college.

Data and information presented in Chapter V concerned occupational status of respondents and factors relating to occupational changes. Attention was directed toward the sources that led to initial employment, reasons for entering occupations unrelated to their college preparation, types of current occupations held, the total number of companies for which each had worked, and their beginning and present salaries.

Through an analysis of the data, it was determined that the placement program was credited with having helped 83, or 37.0 per cent, find employment. Over 70 per cent of those employed in an occupation related to their major field of preparation at the junior college had not held more than two different positions. The average number of positions held during the ten-year period of the study was 1.75. The current annual salaries ranged from $3,000 to $14,000, whereas the beginning salaries had ranged from $1,500 to $8,400.

The purpose of Chapter VI was to present data concerning the respondents' appraisal of the preparation they received at Tyler Junior College. One hundred seventy-two, 64.2 per cent checked that their preparation had "helped greatly." In evaluating the courses which they had used most in their work, drafting students selected mechanical drawing as the most beneficial course. In electronics, basic electronics received the most responses. Two courses in petroleum were indicated to be most helpful, and the second-year plane surveying course was checked most frequently in the surveying program. A majority indicated that their preparation at the junior college related closely to their current occupations. Seventeen also expressed a need for better counseling and guidance for the technical-industrial students.

Findings

From the results of this study, the following findings emerged:

1. The main factors influencing students to enter Tyler Junior College were (1) the convenience or accessibility of the college, (2) the type of courses offered, and (3) the general standing of the college and its reputation for high scholarship.

2. Principal reasons for students enrolling in the technical-industrial curriculum were that they had an interest in that type of work and that there were many job opportunities available in such areas.

3. The placement program is effectively meeting its objectives of placing students who receive preparation in the technical-industrial department.

4. The preparation received at Tyler Junior College enables students to receive average or above average salaries when employed.

5. As a majority, students receiving preparation in the technical-industrial curricula continue to advance within their area of employment.

6. Only a low percentage of students enter occupations unrelated to the preparation they had received in the technical-industrial curricula.

7. A large majority of the students continue their education after leaving Tyler Junior College.

8. Attitudes and opinions of the students toward the type of education received at Tyler Junior College were favorable.

9. Due to the large number of students residing the immediate Tyler area now, it can definitely be stated that Tyler Junior College is fulfilling its role as a community college.

10. There was a high percentage of return by the respondents who were enrolled in the technical programs during 1964, 1965, and 1966.

11. A large percentage, 86.2, of the respondents were residing in Texas.

12. Many of the respondents, 86.6 per cent, had part-time or full-time employment while attending Tyler Junior College.

Recommendations

The following recommendations are made based on the findings of this study:

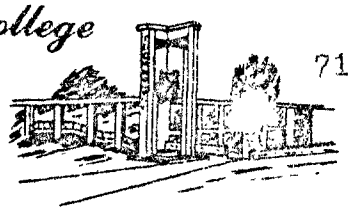
1. Periodic studies should be initiated approximately every three years in the form of a follow-up. There would be a probability of greater student response, and the data would be more relevent to current course content and to current demands of industry.

2. More counseling of incoming students should be given by staff members well-grounded in the needs and demands of vocational-technical students.

3. Consideration should be given to providing a short orientation course entirely devoted to the technical programs.

APPENDIX A

TECHNICAL and INDUSTRIAL DEPARTMENT *of Tyler Junior College*



Dear Former Student:

The enclosed questionnaire has been prepared in order that an evaluation study may be made of the Technical-Industrial Department at Tyler Junior College. We hope that each ex-student will favor us with the prompt return of a completed questionnaire. A return-addressed envelope is enclosed for your convenience.

The study is directed in the following areas:

1. The nature of your employment as it relates to your college preparation.

2. Education you may have completed after leaving Tyler Junior College.

3. Advancements in job classification.

4. Evaluation of technical preparation received.

The questions fall into several broad categories. Some are of a personal nature. These "personal" questions are designed to give a broad over-all view of your advancement as they relate to salary.

Space has been provided for your comments and thoughts to supplement the questionnaire. If the space is not sufficient, we will certainly welcome your letters on these matters.

The information that you will supply on the enclosed form will be treated highly confidential and will be revealed only in statistical tables and graphs. All names will be omitted from the study.

We thank you for your cooperation and earnestly solicit your continued assistance.

Approved by:

Forest E. Griffin, Director
Technical-Industrial Department

Very truly yours,

Robert K. Willis
Instructor

RKW/fr

Enclosures

APPENDIX B

THE ADEQUACY OF THE CURRICULUM IN THE TECHNICAL-INDUSTRIAL DEPARTMENT AT TYLER JUNIOR COLLEGE

DIRECTIONS: Please fill in the blanks with the correct information and check ( ) the appropriate places to answer the questions as they apply to you.

1. Name_____ Age_____
   Last First Initial

2. Present Address_____
   Street & Number City County State

3. When you first entered Tyler Junior College, under what program did you enroll?

   ( ) Liberal Arts
   ( ) Technical
   ( ) Pre-professional (Pre-Engineering, etc.)

4. What were the CHIEF FACTORS that influenced you to select technology as your major field of study?

   ( ) Advice of family
   ( ) Advice of a friend or friends
   ( ) Advice of a teacher
   ( ) Advice of a counselor
   ( ) Work experience
   ( ) Interest in this type of work
   ( ) High school industrial arts experience
   ( ) Military experience
   ( ) Availability of job opportunities
   ( ) Other (explain)_____

5. What were the most important factors influencing your choosing of Tyler Junior College? (Please do not check more than three.)

   ( ) Convenience or accessibility of the college
   ( ) Type of courses offered
   ( ) Influence of friends or relatives
   ( ) Low tuition fee
   ( ) General standing of the college and its reputation for high scholarship
   ( ) Reputation for placing graduates in good positions

( ) Reputation of the faculty or some individual on the faculty
( ) Relative ease with which requirements for certificate of graduation could be met
( ) Other (explain)_____

6. A. Did you work part-time for partial or full financial support while attending Tyler Junior College?

( ) Yes
( ) No

B. Was this work related to your course of study?

( ) Same field
( ) Related field
( ) Different field

C. Give the approximate number of hours you worked per week for financial support.

( ) Less than 10 hours
( ) 10 to 15 hours
( ) 16 to 20 hours
( ) 21 to 25 hours
( ) 26 to 30 hours
( ) 31 to 35 hours
( ) over 35 hours

7. Through what source did you learn about the "opening" that led to your first job after graduation from Tyler Junior College?

( ) Through a friend
( ) Member of your family
( ) School personnel
( ) Counselors office
( ) Private employment agency (To whom you paid a fee)
( ) Technical department placement program
( ) Texas Employment Commission
( ) Other (explain)_____

8. If you entered an occupation other than one related to your field of preparation, what were the three most important reasons for doing so?

( ) Question does not apply to me
( ) Salary in other occupation attracted me
( ) Better chance for advancement
( ) Better working conditions
( ) Other occupation offered more security
( ) Could not find employment in field of preparation
( ) Other (explain)_____

9. Have you advanced from the job at which you were first employed?

( ) Yes
( ) No

10. Do you believe the preparation you received at Tyler Junior College adequately prepared you for entrance into your area of employment?

( ) Helped greatly
( ) Somewhat
( ) Not at all

11. In what way have you extended your education since graduating from Tyler Junior College?

( ) Evening college at Tyler Junior College
( ) Working on Bachelor's degree
( ) Completed requirements for Bachelor's degree
( ) Completed requirements for Master's degree
( ) Company schools
( ) Correspondence school
( ) Trade school or technical school program
( ) Military (technical-vocational classes)
( ) None
( ) Other (explain)_____

12. To what extent is your present work related to the type program you completed at Tyler Junior College?

( ) Closely related
( ) Somewhat related
( ) Not related at all
( ) Other (explain)_____

13. Please indicate the three courses which have been most helpful to you in your occupation.

DRAFTING

( ) Blueprint Reading - Dft. 111
( ) Engineering Drawing - Dft. 113A
( ) Freehand Drawing - Dft. 113B
( ) Architectural Drawing - Dft. 123A
( ) Mechanical Drawing - Dft. 123B
( ) Machine Drawing - Dft. 213A
( ) Descriptive Geometry - Dft. 213
( ) Map Drafting - Dft. 223B
( ) Plane Surveying - Dft. 223C

ELECTRONICS

( ) DC and AC Circuits and Machines - Elec. 112
( ) Basic Electronics - Elec. 113
( ) Basic Electricity Laboratory - Elec. 113L
( ) Vacuum Tube and Transistor Circuit Design - Elec. 122
( ) Industrial Control Electronics - Elec. 122A
( ) Basic Electronics Laboratory - Elec. 123L
( ) Electronic Communication - Elec. 213
( ) Advanced Electronic Laboratory - Elec. 213L
( ) Advanced Electronic Communication - Elec. 223
( ) Advanced Electronic Communication Laboratory - Elec. 223L
( ) Automatic Controls - Elec. 213
( ) Industrial Instrumentation Laboratory - Instr. 213L
( ) Industrial Electronic Instruments - Instr. 223
( ) Advanced Electronic Instrumentation Laboratory - Instr. 223L

PETROLEUM TECHNOLOGY

( ) Petroleum Development - PT 112
( ) Rotary Drilling Fluids - PT 112A
( ) Drilling Equipment Field Laboratory - PT 112B
( ) Oil Field Records - PT 121
( ) Production Methods - PT 122
( ) Production Equipment Field Laboratory - PT 122A
( ) Introduction to Petroleum Industry - PT 213
( ) Well Logging Methods - PT 211
( ) Petroleum Laboratory Methods - PT 212
( ) Planetable Surveying for Geophysics - PT 221
( ) Hydraulics for Petroleum Technologists - PT 221A
( ) Geophysical Methods - PT 222
( ) Natural Gas Production - PT 222A

SURVEYING

( ) Elementary Surveying - Surv. 116
( ) Plane Surveying - Surv. 126
( ) Plane Surveying - Surv. 216
( ) Route Surveying - Surv. 226

14. List below areas of training that you need most in your present employment but did not receive training in this subject matter while in Tyler Junior College.

_____

_____

_____

15. Give your employment record as completely as possible. Start with your first job after leaving college and end with present job. Include time spent in the Armed Forces and self-employment.

Name and Address of Employer	Date	Annual Income	Title & Duties

16. If you were employed part-time while attending Tyler Junior College, give the title of the job in which you were employed the longest.

Title _____ Employer _____

17. Please list below additional comments you care to make.

APPENDIX C

Copy of Post Card

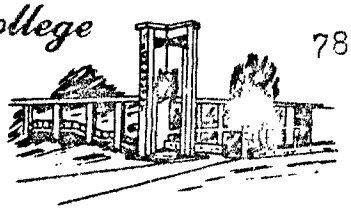
Dear Former Student:

Approximately two weeks ago you received a questionnaire form from Tyler Junior College. We shall appreciate your completing this form and mailing it today. In order for the results of the study to be conclusive, we need a reply from you.

Sincerely yours,

Forest E. Griffin, Director
Technical-Industrial Department
Tyler Junior College

TECHNICAL and INDUSTRIAL DEPARTMENT *of Tyler Junior College*



Dear Former Student:

Possibly you have misplaced the questionnaire form which we mailed to you. Please complete the enclosed one now. The postage paid envelope is provided as a convenience to you.

Your classmates are furnishing us valuable information and recommendations, but our records indicate you have not responded. In order for our study to provide sound conclusions, we need information about you. This study can be of value to former, present, and future students of Tyler Junior College.

Sincerely yours,

Forest E. Griffin, Director
Technical-Industrial Department

FEG/fr

Enclosures

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