A Follow-up Study of Vocational and Technical Division Graduates of Catawba Valley Technical Institute

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by

Miles Ervin Lineberger

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Appalachian State University
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Miles Ervin Lineberger

Approved

August, 1968

J. Edward Harrill

Dr. Edward Harrill, Chairman of Thesis Committee

David T. Robinson

Dr. David Robinson, Member of Thesis Committee

Harry Padgett

Dr. Harry Padgett, Member of Thesis Committee

Ben H. Horton Jr.

Dr. Ben Horton, Chairman of College of Education

Cratis Williams

Dr. Cratis Williams, Dean of Graduate School

Appalachian State University

Boone, North Carolina

Abstract

The Purpose of the Study

The purpose of the follow-up study was to survey the graduates of Catawba Valley Technical Institute with the primary objective being to assemble information useful in institutional evaluation.

Procedures

Data were secured by mailed questionnaires to 308 graduates of 12 curricula in the vocational and technical divisions. Two surveys were used in an attempt to gain valid data. The first survey was conducted in May, 1966, and included all persons that had graduated from the 12 curricula since the school opened in 1960. The second survey was conducted in January, 1968, using graduates who had returned the questionnaire on the first survey. A 67 per cent rate of return was received on the second survey.

Summary

Eighty-one per cent of the employed vocational division graduates responding to the first survey were working at jobs related to the training received. All of the employed technical division graduates responding to the first survey were working at jobs related to the training received.

On the second survey, 90 per cent of the employed vocational and 94 per cent of the technical division graduates were working at jobs related to the training received.

Eighty-seven per cent of the employed graduates were located within 30 miles of the institution with 60 per cent residing in Catawba County.

The median salary for employed graduates participating in the first survey occurred within the $70-79 increment on the questionnaire and in the $100-119 increment on the second survey. On both surveys the median salary for technical division graduates was one increment higher than for vocational division graduates, or approximately $15 per week on the first survey, and $20 per week on the second survey.

Ratings of instructional materials by graduates were 60 per cent excellent, 37 per cent fair, one per cent poor, and two per cent out-dated. Laboratory equipment was rated by 73 per cent as excellent, 23 per cent as fair, two per cent as poor, one per cent as insufficient, and one per cent as out-dated.

Class work and study assignments was rated about right by 87 per cent, too heavy by two per cent, repetitious by one per cent, and too easy by ten per cent. Quality of instruction was rated excellent by 72 per cent, mostly fair by 25 per cent, and occasionally poor by three per cent.

Ninety-eight per cent of the graduates indicated that attending the school had "paid off" for them.

Fifty per cent of the graduates reported that they had received additional training or study since graduation.

Data from the study were recommended to the faculty, administration and Board of Trustees as an aid to institutional evaluation.

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Chapter 1

Introduction

In 1959, the North Carolina General Assembly authorized the establishment of industrial education centers for the purposes of providing a better trained manpower supply for the state (North Carolina State Board of Education, Department of Community Colleges, 1968). The centers were dedicated to extending educational opportunities in industry, business, and agriculture beyond the high school.

Catawba County was designated as one of the locations for an industrial education center. On September 26, 1960, the Catawba County Industrial Education Center opened its doors to the public. Programs of study available at Catawba County Industrial Center included vocational and technical curricula, and occupational up-grading non-credit courses for employed persons. Its stated purpose was ". . . to develop the skills, knowledge, abilities, and attitudes of each student for entry and progress within an occupational field" (Catawba Valley Technical Institute, 1966).

In an effort to consolidate the state supported junior colleges and the industrial education centers, the 1963 North Carolina General Assembly, on July 1, 1963, established a Department of Community Colleges under the State Board of Education (North Carolina State Board of Education, Department of Community Colleges, 1968). By this action, all of the state's two-year post-high school educational needs--whether academic, technical, or vocational--could be developed under one administration.

By authorization of the Department of Community Colleges and the North Carolina Board of Education, the name and status of Catawba County Industrial Education Center was changed to Catawba Valley Technical Institute in January, 1964 (Catawba Valley Technical Institute, 1966). The status change enabled the institution to grant Associate in Applied Science degrees to graduates of technical curricula.

Student enrollment in the vocational and technical divisions has increased rapidly from 75 students during the first quarter of operation in 1960 to 731 students during the fall quarter in 1967. Curricula offerings also increased during this period of time, particularly in the field of business education where accounting, traffic and transportation, and secretarial science were added (Catawba Valley Technical Institute, 1968).

Statement of the Problem

The purpose of this study was to survey the graduates of the Catawba Valley Technical Institute with the primary objective being to provide the Board of Trustees, Administration, and Faculty with information useful for evaluation purposes.

Secondary objectives included the collection and summarization of graduate data regarding:

1. Geographic location
2. Socio-economic status
3. Attitudes toward instruction, facilities and instructional policies
4. Suggestions for institutional improvement

Significance of the Problem

An educational institution is somewhat like a business or industrial institution. Both, if they are to be respected and supported by society, specialize in yielding a finished product that is of value to society. As the industrial institution evaluates its product through studies of usefulness and consumer appeal, so the educational institution evaluates its program through various follow-up studies of its graduates and drop-outs. Each institution seeks to maximize effectiveness through efficiency and a meaningful sense of direction.

The follow-up study is a systematic plan for gathering data "in masse." Information about outstandingly successful graduates and those who are

"shiftless wonders" are not hard to obtain. Too frequently little or nothing is known about the large numbers of graduates who are distinguished neither by brilliant success nor dismal failure (Harris, 1964).

Community institutions such as Catawba Valley Technical Institute depend on local support of its program. The follow-up study may be used to test local acceptance of graduates through commensurate positions in employment and civic leadership.

Accrediting agencies often require follow-up data of graduates and drop-outs. If an institution is to be accredited or maintain its accreditation it must have sufficient data on file to illustrate its effectiveness in accomplishment of its purposes.

Norman Harris (1964) emphasizes the significance of follow-up studies in the community institution in the following way:

> Follow-up studies, if the results are disappointing, will act as a spur for improvement. If the results are satisfying or complimentary, the studies can add status to the program. They will encourage students to remain until graduation. Published data from the studies will influence community opinion and engender local pride in the institution (p. 91).

Data gathered from graduates may be used as evidence for instructional and curriculum improvements at Catawba Valley Technical Institute, since the graduates are in a prime position to reflect strengths and weaknesses.

In summary, a follow-up study of Catawba Valley Technical Institute graduates should assist the administration and the board of trustees in future planning for the total institution, in that the data may be used to point out possible strengths and weaknesses in curricula studied.

Definitions of Terms Used

Vocational Division

The vocational division curricula were interpreted as being those organized programs of instruction aimed at preparing persons for employment in industry or in the service occupations at the skilled and semi-skilled levels.

Curricula in this category included automotive mechanics, electrical installation and maintenance, machine shop, upholstery cutting and sewing, and upholstery.

Technical Division

The technical division curricula were interpreted as being those organized programs of instruction yielding upon satisfactory completion the Associate in Applied Science Degree and designed to meet the increasing demands by industry for high level industrial skills. The graduate, or technician, is a person whose chief interests and activities lie in the direction of testing, developing, and applying the operation of equipment, estimating, and sales. The technical curriculum is similar to the professional engineering curriculum, but briefer and more technical in content.

Curricula in this category included agricultural business, architectural drafting, mechanical drafting, furniture drafting, and electronics.

Graduate

A graduate was interpreted as being a person who had completed a prescribed course of study in the vocational or technical division.

Significant

An item was considered significant if it was of importance to more than 50 per cent of those responding to the specific item.

Limitations of the Study

The basic limitations of this study are as follows:

1. Make up of the Survey Sample: This survey of individuals included only those who completed a curriculum of Catawba Valley Technical Institute before July, 1966. It does not include information on withdrawals or persons completing only a portion of the curriculum.

   Although adequate sample sizes, at least 12 completed questionnaires, were obtained for the totals of the vocational and technical divisions, and the institution as a whole, insufficient numbers occurred in technical curricula totals for reliable conclusions to be drawn.

2. Questionnaire: Questions 4, 5, and 15 contained on the questionnaire were subjective in nature and required summarization into objective categories before entry on the punched card. The respondent's true feeling may have been lost in this summarization.

   Items 4, 5, and 6 on the questionnaire did not apply to graduates of the upholstery, upholstery cutting and sewing, and practical nurse curricula. Thus, a high number of "No Response" totals were received for certain items in these curricula.

The objective question pertaining to income used on the questionnaire had as the highest salary bracket "over $140" and as the lowest "under $50" per week. Three salary brackets had a range of $10 and three had a range of $20. These facts added to the difficulty in presenting a true picture of average salaries.

Chapter 2

Review of Literature

This chapter pertains to a review of literature related to vocational and technical education and to follow-up studies of graduates of vocational and technical education programs.

A search of printed materials for information on the status of vocational and technical education revealed two important items of interest (Fields, 1962).

1. Vocational and technical education is undergoing changes in many directions simultaneously. Some of these changes include: (a) better adaptation of specific curricula to occupational skill requirements, (b) development of new curricula to train employees for new occupations, and (c) more emphasis on the development of local programs to satisfy local needs.
2. Vocational and technical education is gaining a place in the post-secondary institution. To a considerable--and constantly increasing--extent, the training of technicians is becoming a college-level undertaking and one particularly appropriate for comprehensive community colleges and technical institutes.

While the status of vocational and technical education is changing, so is the terminology used to describe various types of vocational and technical education. Harris (1964), in discussing broad concepts used in vocational and technical education, defined some commonly used terms in comprehensive junior colleges:

Occupational education - any and all education and training offered by junior colleges aimed at preparation for employment.

Semi-professional education - education leading to the associate degree and designed to prepare the student for employment in career fields recognized as nearly professional in status.

Technical education - emphasizes work in the field of science and mathematics, and frequently, but not always, is related to industry and engineering.

Vocational education - refers to training for skilled jobs. It has been more commonly associated with high schools and trade schools. Only recently have junior colleges begun to offer vocational education.

Trade and industrial education - aims at preparing persons for employment in industry or in the service occupations at the skilled and semi-skilled levels.

Although the scope of vocational and technical education appears to be broadening, the primary objective--to prepare the nation's manpower--remains constant.

The need for evaluation of all aspects of vocational and technical education programs also remains evident. To aid in evaluating programs of technical and vocational education, the follow-up study has been used successfully. Such data as salary, promotion, actual demands of the job with respect to training received, opinions on curriculum content, and suggestions for improving certain phases of the program may be gathered from graduates through the use of well executed follow-up studies (Harris, 1964).

A review of follow-up studies of technical and vocational secondary

and post-secondary institutions indicate two common tendencies:

1. A high percentage of the graduates of vocational and technical programs receive employment in occupations related to their training.
2. A high percentage of the graduates of vocational and technical programs receive employment near the institution from which they received their training.

Regarding the first tendency, the American Institute for Research (Eninger, 1966) conducted a follow-up study of 10,000 vocational and 3,000 academic graduates of high schools scattered throughout the United States. Approximately 65 per cent of the graduates entered jobs related to their training. The percentage over an eleven year period varied with fluctuations in the national economy, with a lower percentage resulting in periods of recessions. Very little mobility occurred with vocational graduates. Less than three per cent moved to another city to obtain their first job. Eleven years later 87 per cent still resided and worked in the city where they attended school.

A survey (Wisconsin State Board of Vocational, Technical, and Adult Education, 1967) of the 6,688 graduates of the vocational and technical schools in Wisconsin for the school year 1965-66 revealed that only 7.9 per cent of the graduates were employed in occupations not related to the occupational program they had completed.

Coe (1965) reported a follow-up study where 91 per cent of the graduates participated. Eighty-one per cent of the graduates available for work upon graduation from three area vocational-technical schools in New Jersey went to work in the trade or occupation for which they were trained or into

a closely related occupation. Eighty-six per cent of the group were living in the same county ten years after graduation.

College transfer graduates of Orange County Community College in California (Fields, 1962) enrolled in colleges scattered over the United States while 73 per cent of the technical and vocational graduates obtained jobs in their home community. Fields (1962) recorded a similar tendency for graduates of Tyler Community College in Texas.

The Greenville Technical Education Center (Greenville Technical Education Center, 1967) in Greenville, South Carolina reported that approximately 70 per cent of its 464 graduates of the classes of 1964, 1965, and 1966 were employed in the Greenville area at the time of the survey--April, 1967.

Seventy-two per cent of the 521 graduates of vocational and technical schools in Madison, Wisconsin were employed in the city of Madison. The study included graduates for the 1965-66 school year (Madison Vocational, Technical, and Adult Schools, 1967). The study was conducted immediately after the subjects graduated.

Additional findings, but with less frequency of occurrence, have been reported. An additional finding concerns reports of wages earned by graduates of vocational and technical programs.

The average weekly starting wages for the Madison (1967) graduates described above varied from $69.82 per week for one-year diploma graduates, and $83.57 per week for two-year diploma graduates, to $101.30 per week for the two-year associate degree graduate.

A study (North Carolina State University, Department of Economics, 1966) was conducted to determine the value of technical education for graduates of

Gaston Technical Institute in Gastonia, North Carolina, by using matched pairs of high school and Gaston Tech graduates. A very favorable rate of monetary return for the investment made by the Gaston Tech graduate was found, relative to the rates yielded by other selected investments. Average starting salaries for the Gaston Tech graduates were not significantly higher than for the high school graduates. After four years, however, the technical graduates' average salaries exceeded those of the high school graduates by approximately 30 per cent.

Salary increases for graduates of Greenville Technical Education Center (Greenville Technical Education Center, 1967) averaged $1,783 per year when compared to salaries before enrollment.

Although most vocational and technical education programs are considered terminal in terms of additional education required for occupational placement, some graduates continue their education through matriculation to other programs and company sponsored courses.

Eninger (1966) reported that of the 10,000 high school vocational graduates in the nation-wide study, 15 per cent went to college, and 42 per cent received some training in adult-level technical schools and company courses.

Summary

Technological advancements in industry coupled with demands for a more highly skilled work force have brought about increased emphasis on vocational and technical education in high schools and post-secondary institutions.

In summarizing follow-up studies involving graduates of vocational and technical education programs, the following tendencies were found:

1. Graduates usually seek and find employment near the institution from which they were trained;
2. A high percentage of the graduates are employed in occupations related to the training received; and
3. Although vocational and technical education has become more comprehensive in nature, both secondary and post-secondary institutions report successful results of training offered.

Chapter 3

Analysis of Data

Introduction

Graduates of 12 vocational and technical curricula were used in the follow-up study. The curricula listed by division are as follows:

Vocational division

- Automotive mechanics
- Electrical installation and maintenance
- Machine shop
- Practical nurse
- Upholstery cutting and sewing
- Upholstery

Technical division

- Agricultural business
- Architectural drafting
- Business administration
- Electronics
- Furniture drafting
- Mechanical drafting

All of the vocational curricula, with the exception of upholstery and upholstery cutting and sewing, required 12 months attendance for graduation. Upholstery required nine months attendance and upholstery cutting and sewing required six months. A vocational diploma was given graduates of all curricula in the vocational division.

All curricula in the technical division required 108 quarter credit hours earned, usually in two school years. An Associate in Applied Science Degree was given graduates of all technical division curricula.

Procedures

The names and addresses of the graduates of the vocational and technical divisions of Catawba Valley Technical Institute, through May, 1966, were obtained from student records in the student personnel office.

A questionnaire (Appendix A), developed by the North Carolina Department of Community Colleges, was selected as the instrument for gathering data. The state questionnaire was used instead of a locally developed form since it was being used in a state-wide survey of graduates in all member institutions of the Department of Community Colleges. Although this form was not entirely favored by the researcher, it was adopted for this study because a second questionnaire may have reduced the response percentage of the questionnaires received last by the graduate.

The questionnaire and a cover letter (Appendix B) from the Catawba Valley Technical Institute president, were mailed to each graduate. The cover letter included a request for cooperation in the survey and instruction for completing and returning the questionnaire.

After a two-week period a second questionnaire, cover letter, and a reminder (Appendix C) were mailed to each graduate who had not returned the initial questionnaire.

The questionnaires were prepared by the researcher and mailed to the Department of Community Colleges for use in the state-wide survey. In January, 1967, the questionnaires were returned to Catawba Valley Technical Institute.

A coding system was used to summarize the data on each questionnaire. A data processing card (Appendix D), using the codes, was punched for each questionnaire to facilitate tabulation of the data.

In January, 1968, an identical questionnaire and a letter (Appendix E), containing a set of instructions and a message from the Catawba Valley Technical Institute president explaining the reason for the second questionnaire, were mailed to those graduates who returned the first questionnaire.

Similar procedures were used with the second questionnaires as with the first except the second questionnaires were not mailed to the Department of Community Colleges.

Data from each survey were tabulated and summarized. A comparison of the summarized data for the two surveys was made. Conclusions and recommendations were made based on the findings.

The Instrument

Data from the two surveys were presented separately for the questionnaire categories dealing with response to surveys, relationship of employment to training required, geographical location, and salaries. No apparent difference in responses were obtained from the two surveys for the other categories of data. Therefore, the summaries for these categories were made by using data from the first survey.

The following sequence of reporting data for each summary was used:

1. Response to questionnaires by survey
2. Employment status and relationship of employment to training by survey

3. Geographical location of employed graduates by survey
4. Weekly salaries of employed graduates by survey
5. Course or courses within the curriculum most useful or helpful on the job
6. Course or courses within the curriculum of little or no value to graduates either on the job or at home
7. Opinions of graduates with respect to the proportion of the curriculum devoted to various subject areas
8. Opinions of graduates on instructional materials, laboratory equipment, class work and study assignments, and quality of instruction
9. Value of attending the school
10. Willingness of graduate to recommend the school to friends
11. Additional training or study received by the graduate after graduation
12. Suggestions by graduates for improving the school

Analysis of the Findings by Curriculum

Vocational Division

Automotive mechanics. In the first survey, 46 questionnaires were mailed to graduates of the automotive mechanics curriculum. Thirty returned the questionnaires for a 65 per cent return. In the second survey, of the 30 mailed, 20 returned the questionnaires for a 67 per cent return.

At the time of the first survey, 18 of the 30 graduates were working in occupations for which they were trained. Seven were in military service, and five were working at jobs unrelated to training. Of the 20

returning the second questionnaire, 12 were working in occupations for which they were trained, five were in military service, two were working in occupations unrelated to training, and one was a full-time student in college.

Geographically, 16 of the 23 employed graduates included in the first survey were located in Catawba County, two each were in Caldwell and Iredell Counties, and one each was in Burke, Alexander, and Lincoln Counties. On the second survey, nine of the 14 employed graduates were in Catawba County, two each in Caldwell and Iredell Counties, and one in Lincoln County.

The weekly salaries reported by employed graduates are summarized in Table 1. The median salary occurred in the $80-99 increment on the first survey and in the $100-119 increment on the second survey. Salaries ranged, on the first survey, from the $50-59 increment to the >$140 increment. On the second survey, the range was from the $70-79 increment to the >$140 increment.

When asked what courses in the curriculum were most useful on the job the graduates indicated mostly automotive shop practice, mathematics, and applied physics. Only speed reading was listed more than two times as being of little or no value either on the job or at home.

No significant changes were recommended by the responding graduates in the proportions of the curriculum devoted to mathematics, English, reading, shop practice, science, laboratory work, and social studies.

Table 2 summarizes the opinions of the graduates with respect to instructional materials, laboratory materials, class work and study assignments, and quality of instruction.

All of the responding graduates indicated that attending Catawba Valley

Table 1

Weekly Salaries of Employed Automotive Mechanics

Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	2	0
$60-69	2	0
$70-79	6	1
$80-99	3	4
$100-119	5	5
$120-140	2	2
>$140	1	2
No Response	4	0

Technical Institute had "paid off" for them and that they were willing to recommend the school to their friends.

Sixty-seven per cent of the responding graduates reported some type of further training after graduation. One was attending college full time while the others listed self-study and company sponsored courses predominantly.

Two suggestions for improving the school were offered by the responding graduates of the automotive mechanics curriculum. These were the addition of welding to the curriculum and the expansion of the automotive laboratory facilities.

Electrical installation and maintenance. On the first survey, 15 questionnaires were mailed to graduates of the electrical installation and maintenance curriculum. Thirteen returned the questionnaires for an 87 per cent return. On the second survey, of the 13 mailed, eight returned the questionnaires for a 62 per cent return.

Ten of the 13 graduates indicated on the first survey that they were working in occupations for which they were trained, while one was in an unrelated occupation, one was in military service, and one was unemployed. On the second survey, seven of the eight returning the questionnaires were working in occupations for which they were trained and one was in military service.

The geographical location of the employed graduates on the first survey included five in Catawba County, four in Burke County, and one each in Lincoln and Iredell Counties. On the second survey four were located in Catawba County and three were in Burke County.

Table 2

Opinions of Automotive Mechanics Graduates

on Instructional Materials, Laboratory Equipment

Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-dated
Instructional Materials	18	12	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-dated
Shop and Lab Equipment	30	0	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Daily Class Work and Assignments	0	23		0	7
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	21	8		1	0

A summary of the weekly salaries for the employed graduates is contained in Table 3. The median salary occurred in the $80-99 increment on the first survey and in the $120-140 increment on the second survey. On the second survey, the range was from the $80-99 increment to the $120-140 increment.

The courses within the curriculum reported to be the most helpful or useful to the graduates on the job include electrical theory and shop courses, blueprint reading, and mathematics. Speed reading was the only course reported with little or no value to the graduate on the job. It was listed by four graduates.

No significant changes were recommended by the responding graduates in the proportions of the curriculum devoted to mathematics, English, reading, shop practice, science, laboratory work, and social studies.

Table 4 depicts the opinions of employed electrical installation and maintenance graduates on instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

Twelve of the 13 graduates returning the questionnaires on the first survey indicated that attending the school had "paid off." All reported that they were willing to recommend the school to their friends, based upon job success and the quality of the program.

Nine of the 13 graduates received additional training or study after graduation, five through company sponsored courses and four through self-study.

The predominant suggestion for improving the school was to lengthen the one-year electrical installation and maintenance curriculum to two years.

Table 3

Weekly Salaries of Employed Electrical Installation and Maintenance Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	0	0
$60-69	1	0
$70-79	1	0
$80-99	5	1
$100-119	3	2
$120-140	1	4
>$140	0	0
No Response	0	0

Table 4

Opinions of Electrical Installation and Maintenance Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	8	4	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Shop and Lab Equipment	8	4	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Daily Class Work and Assignments	0	12		0	0
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	6	6		0	0

Machine shop. On the first survey, questionnaires were mailed to 15 graduates of the machine shop curriculum. Twelve returned the questionnaires for a 71 per cent return. On the second survey, seven of the 12 mailed were returned for a 58 per cent return.

All of the responding graduates on both surveys indicated that they were working in occupations for which they were trained.

The geographical location of graduates included for the first survey: four in Catawba County, two in Iredell County, and one each in Alexander, Caldwell, Burke, Lincoln, Watauga, and Buncombe Counties. On the second survey, two were in Catawba County, two in Iredell County, and one each in Alexander, Lincoln, and Buncombe Counties.

A summary of the weekly salaries for employed graduates is contained in Table 5. The median salary occurred in the $80-99 increment on the first survey and in the $100-119 increment on the second survey. Salaries ranged, on the first survey, from the $60-69 increment to the $120-140 increment. On the second survey, the range was from the $80-99 increment to the >$140 increment.

The courses within the curriculum reported to be the most helpful or useful to the graduates on the job include machine shop theory and practice, mathematics, and blueprint reading. Two graduates listed physics and one listed business management as courses with little or no value either on the job or at home. All other graduates agreed that all courses were helpful in some way.

No significant changes were recommended by the responding graduates in the proportions of the curriculum devoted to mathematics, English, reading, shop practice, science, laboratory work, and social studies.

Table 5

Weekly Salaries of Employed Machine Shop Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	0	0
$60-69	1	0
$70-79	1	0
$80-99	6	1
$100-119	3	3
$120-140	0	1
>$140	1	1
No Response	0	1

Table 6 summarizes the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

Eleven of the 12 graduates returning the questionnaires on the first survey indicated that attending the school had "paid off," and that they were willing to recommend the school to their friends. No response was given on the other questionnaire for these two questions.

Eight graduates reported additional training or study since graduation; three by self-study, three in the plant, and two at another school.

Recommendations for improving the school were: (a) the addition of welding to the machine shop curriculum, (b) more emphasis on vocational programs and less emphasis on business programs, and (c) the selection of instructors with more practical experience in machine shop work.

Practical nurse. Twenty-three questionnaires were mailed during the first survey to graduates of the practical nurse curriculum. Eighteen returned the questionnaires for a 78 per cent return. On the second survey, nine replies were received from the 18 mailed for a 50 per cent return.

Sixteen of the 18 graduates replying to the first survey indicated that they were working in occupations for which they were trained; 13 in hospitals, two in nursing homes, and one was working in a doctor's office. One graduate was a full-time student at a two-year college, working part-time as a practical nurse. One graduate reported work unrelated to the training received.

On the second survey, the reported occupations include five nursing

Table 6

Opinions of Machine Shop Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	7	5	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Shop and Lab Equipment	10	2	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Daily Class Work and Assignments	1	8		0	3
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	6	6		0	0

in hospitals, two as private duty nurses, one in a doctor's office, and one in a missionary school.

The geographical location of the nursing programs is reflected in the location of the graduates. Practical nurse programs having graduates in the surveys were sponsored by Catawba Valley Technical Institute in Avery and Caldwell Counties. On the first survey, six employed graduates were located in Caldwell County, three in Mitchell County, three in Avery County, two in Catawba County, and one each in Burke and Wilkes Counties. Of the employed graduates replying to the second survey, two each were in Catawba and Caldwell Counties, and one each in Mitchell and Wilkes Counties, one in Stuart, Virginia, and one in Hudson, Ohio.

A summary of weekly salaries of the employed graduates is contained in Table 7. The median salary occurred in the $50-59 increment on the first survey and in the $70-79 increment on the second survey. Salaries ranged, on the first survey, from the <$50 increment to the $60-69 increment. On the second survey, the range was from the $50-59 increment to the $100-119 increment.

Since the practical nurse curriculum was not divided into specialized courses of study, questions pertaining to an evaluation of separate courses did not apply to the graduates.

Table 8 shows in summary the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All graduates returning the questionnaires indicated that attending the school had "paid off," and that, based upon their success on the job and the quality of the program, they were willing to recommend the school to their friends.

Table 7

Weekly Salaries of Employed Practical Nurse Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	5	0
$50-59	6	3
$60-69	2	0
$70-79	0	3
$80-99	0	1
$100-119	0	1
$120-140	0	0
>$140	0	0
No Response	3	0

Table 8

Opinions of Practical Nurse Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	8	10	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Materials	3	11	4	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Daily Class Work and Assignments	0	17		0	1
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	10	7		1	0

Nine of the 18 graduates received further education after graduation, eight through self-study and one at another institution.

Suggestions offered by the graduates for improving the school included: (a) a need for better equipment and facilities, (b) more medical reference books in the library, and (c) better screening of prospective students.

Upholstery. Sixty-two questionnaires were mailed during the first survey to graduates of the upholstery curriculum. Thirty-six returned the questionnaires for a 58 per cent return. On the second survey, 16 replies were received from the 36 mailed for a 44 per cent return.

Twenty-four of the 36 graduates replying to the first survey indicated that they were working in occupations for which they were trained, ten were working in occupations unrelated to their training, and two were in military service. The findings of the second survey showed that, of the 16 replying, 13 were working in occupations for which they were trained, two in unrelated occupations, and one in military service.

The geographical location of employed graduates returning the questionnaires during the first survey included 25 in Catawba County, five in Burke County, and one each in Alexander, Iredell, and Watauga Counties. One listed residence in Tice, Florida. The findings of the second survey showed ten employed graduates located in Catawba County, three in Burke County, one in Watauga County, and one in Tice, Florida.

A summary of the weekly salaries of the employed graduates is contained in Table 9. The median salary occurred in the $80-99 increment on the first survey and in the $120-140 increment on the second survey.

Table 9

Weekly Salaries of Employed Upholstery Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	1	0
$50-59	1	0
$60-69	8	0
$70-79	4	0
$80-99	1	2
$100-119	4	4
$120-140	8	5
>$140	2	3
No Response	5	1

Salaries ranged, on the first survey, from the <$50 increment to the >$140 increment. On the second survey, the range was from the $80-99 increment to the >$140 increment.

The upholstery curriculum included shop instruction and skill development practice on the process of manufacturing upholstered furniture. The portion of the questionnaire devoted to the evaluation of related subjects or courses did not apply to upholstery graduates.

Table 10 summarizes the opinions of the graduates with respect to instructional materials, shop equipment, class work and study assignments, and quality of instruction.

With the exception of one graduate, all of those responding to the surveys indicated that attending the school had "paid off." All of the respondents indicated that they were willing to recommend the school to their friends.

Thirteen of the 36 graduates received additional training since graduation; eight through company sponsored courses, three through self-study, one at another institution, and one at Catawba Valley Technical Institute.

Two predominant recommendations for improving the upholstery program were made by the graduates: (a) More emphasis should be placed on using materials and methods found in industries for instructional purposes. (b) More space should be made available for the upholstery shop.

Upholstery cutting and sewing. One hundred and one questionnaires were mailed during the first survey to graduates of the upholstery cutting and sewing curriculum. Sixty-seven returned the questionnaires for a 66 per cent return. On the second survey, 38 replies were received from the 67 mailed for a 57 per cent return.

Table 10

Opinions of Upholstery Graduates on Instructional Materials, Shop Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	18	11	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Shop Equipment	24	9	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	0	33		0	2
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	30	5		0	0

Table 11 depicts the employment status of the graduates replying to both surveys. The geographical location of employed graduates returning the questionnaires during the first survey included 43 in Catawba County, eight in Caldwell County, five in Burke County, two in Alexander County, one each in Lincoln County, Jamestown, New York and Logan, Ohio. On the second survey there were 25 in Catawba County, four in Burke County, one each in Caldwell County, Lincoln County, and Logan, Ohio.

A summary of the weekly salaries of the employed graduates is included in Table 12. On the first survey, the median salary occurred within the $60-69 increment and within the $70-79 increment on the second survey. Salaries ranged, on the first survey, from the <$50 increment to the $100-119 increment. On the second survey, the range was from the $50-59 increment to the $120-140 increment.

The upholstery cutting and sewing curriculum included only shop instruction and skill development practice on the process for cutting and sewing upholstery fabric. The portion of the questionnaire devoted to the evaluation of related subjects or courses did not apply to upholstery cutting and sewing graduates.

Table 13 summarizes the opinions of the graduates with respect to instructional materials, shop equipment, class work and study assignments, and quality of instruction.

When the graduates were asked if the school had "paid off" for them, 61 indicated positive answers, three answered negatively, and three gave no response.

Twenty-two of the 67 graduates received additional training since graduation; 11 through company sponsored courses, five through self-study, two at another institution, and four at Catawba Valley Technical Institute.

Table 11

Employment Status of Graduates in the Upholstery Cutting and Sewing Curriculum by Frequency of Responses

Employment Status	First Survey	Second Survey
Employment Related to Training	48	28
Employment	13	4
Unemployed	6	5
Military Service	0	1

Table 12

Weekly Salaries of Employed Upholstery Cutting and Sewing Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	2	0
$50-59	19	2
$60-69	14	9
$70-79	9	6
$80-99	10	5
$100-119	3	7
$120-140	0	3
>$140	0	0
No Response	4	0

Table 13

Opinions of Upholstery Cutting and Sewing Graduates on Instructional Materials, Shop Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	31	9	0	0	2
	Excellent	Fair	Poor	Insufficient	Out-Dated
Shop Equipment	39	15	0	0	1
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	1	49		0	4
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	55	10		0	0

Suggestions for improving the school included: (a) the addition of more space for the upholstery cutting and sewing program, (b) the division of the cutting and sewing phases of the curriculum into two separate curricula, and (c) better communication by institution personnel with employers of potential graduates.

Technical Division

Agricultural business. Eight questionnaires were mailed during the first survey to graduates of the agricultural business curriculum. Seven returned the questionnaires for an 88 per cent return.

Of the seven replying to the first survey, four were working in occupations related to the training received and three were in military service. On the second survey, two were working in occupations related to the training received and four were in military service.

The geographical location of employed graduates on the first survey included one each in Catawba, Caldwell, Gaston, and Henderson Counties.

Salaries for employed graduates in the first survey included one within the $70-79 increment, and three within the $80-99 increment. The median weekly salary occurred within the $80-99 increment on the first survey. On the second survey, one each reported weekly salaries in the $100-119 and $120-140 increment.

Courses within the curriculum reported by the graduates to be most helpful on the job included agricultural science subjects predominantly. No courses within the curriculum were listed as being of little or no value to graduates on the job or at home.

No significant changes were recommended by the responding graduates in

the proportions of the curriculum devoted to mathematics, English, reading, and social studies. Two changes were indicated by a sufficient number of graduates to be of significance. These were: (a) more time should be devoted to laboratory work, and (b) not enough science courses were included in the curriculum.

Table 14 is a summary of the opinions of the graduates with respect to instructional materials, shop and laboratory equipment, daily class work and study assignments, and quality of instruction.

All responding graduates indicated that attending the school had "paid off" for them and that they were willing to recommend the school to their friends.

Two graduates received additional education after graduation; one at another institution; and one in a company sponsored course.

Suggestions made for improving the school were: (a) that more emphasis be placed on agricultural science courses and less emphasis on business courses within the agricultural business curriculum, and (b) continue to select high quality instructors.

Architectural drafting. Ten questionnaires were mailed during the first survey to graduates of the architectural drafting curriculum. Eight returned the questionnaires for an 80 per cent return. During the second survey, seven replies were received of the eight mailed for an 88 per cent return.

Seven of the eight graduates replying to the first survey were working as architectural draftsmen. One was in military service. On the second survey, with seven of eight replying, three listed employment as architectural draftsmen, three indicated military service, and one reported employment unrelated to training received.

Table 14

Opinions of Agricultural Business Graduates on Instructional Materials, Laboratory Equipment, Daily Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	4	3	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	7	0	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Daily Class Work and Assignments	0	5		0	2
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	5	2		0	0

The geographical location of employed graduates for the first survey included: three in Catawba County, two in Iredell County, and one each in Lincoln, Gaston, and Burke Counties. On the second survey, two were in Catawba County, and one each in Burke and Gaston Counties.

Table 15 contains a distribution of the weekly salaries for employed graduates. The median salary occurred in the $70-79 increment on the first survey and in the $100-119 increment on the second survey. Salaries, on the first survey, ranged from the $50-59 increment to the $100-119 increment. On the second survey, the range was from the $100-119 increment to the $120-140 increment.

The courses within the curriculum reported to be the most helpful or useful on the job included core drafting courses and physics. The only course listed more than one time as being of little or no value to the graduates was economics. It was listed by three respondents.

No significant changes were recommended by the responding graduates in the proportion of the curriculum devoted to mathematics, English, reading, social studies, laboratory work, and science.

Table 16 summarizes the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All responding graduates indicated that attending the school had "paid off" for them and that, based upon their success and the quality of the program, they were willing to recommend the school to their friends.

Five graduates indicated that they had taken additional training or study after graduation; two through self-study, two at Catawba Valley Technical Institute, and one through company sponsored courses.

Table 15

Weekly Salaries of Employed Architectural Drafting Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	2	0
$60-69	0	0
$70-79	2	0
$80-99	2	0
$100-119	1	3
$120-140	0	1
>$140	0	0
No Response	0	0

Table 16

Opinions of Architectural Drafting Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	3	4	1	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	7	1	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Study Assignments	0	6		1	1
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	3	3		2	0

The following suggestions were made by the graduates for improving the school: (a) more emphasis should be placed on practical than on theoretical subjects, (b) expand the drafting facilities, and (c) strive for quality in choosing teachers.

Business administration. The first class of business administration students had not completed the last quarter of the curriculum at the time of the first survey. Therefore, data gathered from the first survey could not be considered valid. All reported data are a result of the second survey.

Questionnaires were mailed to 11 graduates. Seven returned the questionnaires for a 64 per cent return.

Three of the seven graduates were employed in occupations for which they were trained. Four were in military service. All employed graduates were located in Catawba County.

Two graduates reported weekly salaries in the $120-140 increment while one reported a salary of more than $140. The median salary occurred in the $120-140 increment.

Core business courses were listed predominantly as being the most helpful or useful to graduates on the job. No courses were listed as having little or no value to graduates either on the job or at home.

No significant changes were recommended in the proportions of the curriculum devoted to mathematics, English, reading, social studies, science, and laboratory work.

Table 17 depicts the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All of the respondents indicated that attending the school had "paid off" for them and that they were willing to recommend the school to their friends.

Five graduates received additional training since graduation; two at other schools, two at Catawba Valley Technical Institute, and one through self-study.

No suggestions for improving the school were made by the graduates.

Electronics. Six electronics graduates were mailed questionnaires during the first survey. Three questionnaires were received for a 50 per cent return. On the second survey, a 100 per cent return was received from the three questionnaires mailed.

On the first survey, two graduates indicated that they were full-time students at Catawba Valley Technical Institute when the first survey was made. The other graduate was working as an electronics technician. On the second survey, two of the three graduates were employed as electronics technicians. One was located in Catawba County and one in Franklin Park, Illinois. The other graduate on the second survey was in military service.

The weekly salary of the employed graduate on the first survey was within the $120-140 increment. On the second survey one indicated $100-119 and the other over $140.

Technical mathematics, physics, and core electronics courses were indicated as being the most helpful or useful to graduates on the job. English was listed by two graduates as being of little or no value to them either on the job or at home.

All responding graduates indicated that more laboratory work should have been included in the electronics curriculum. No significant changes were

Table 17

Opinions of Business Administration Graduates

on Instructional Materials, Laboratory Equipment

Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	4	1	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	3	1	0	0	1
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	1	4		0	0
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	3	2		0	0

recommended by the graduates in the proportion of the curriculum devoted to mathematics, English, reading, social studies, and science.

Table 18 displays the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All respondents indicated that attending the school had "paid off" for them and that, based upon their success and the quality of the program, they were willing to recommend the school to their friends.

All responding graduates received additional training after graduation, two at other schools, and one through a company sponsored course.

Suggestions made by the graduates for improving the school were: (a) help students secure jobs, (b) lengthen the electronics program from two years to four years, and (c) the school needs better methods of scheduling courses.

Furniture drafting. Six questionnaires were mailed to graduates of the furniture drafting curriculum during the first survey. All graduates replied for a 100 per cent return. During the second survey, four replies were received from the six mailed for a 67 per cent return.

All responding graduates reported employment in occupations related to their training on the first survey. On the second survey, three were working in occupations related to their training and one was in military service.

The geographical location of employment on the first survey included: two each in Burke and Iredell Counties, one in Caldwell County, and one in Salem, Virginia. On the second survey, one each was located in Burke and Iredell Counties, and Salem, Virginia.

Table 18

Opinions of Electronics Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	0	0	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	2	0	0	1	0
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Study Assignments	1	2		0	0
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	2	0		1	0

Table 19 depicts the weekly salaries of employed graduates. The median salary occurred in the $80-99 increment on the first survey and in the >$140 on the second survey. Salaries, on the first survey, ranged from the $60-69 increment to the >$140 increment. On the second survey, the range was from the $80-99 increment to the >$140 increment.

Core drafting courses were listed predominantly as being the most helpful or useful on the job. Physics was listed by three respondents as being of little or no value to the graduates either on the job or at home.

No significant changes were recommended in the proportion of the curriculum devoted to mathematics, English, reading, social studies, science, and laboratory work.

Table 20 summarizes the opinions of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All graduates returning the questionnaires indicated that attending the school had "paid off" for them and that, based upon their success and the quality of the program, they were willing to recommend the school to their friends.

Three graduates reported additional training or study since graduation, two through self-study and one at Catawba Valley Technical Institute.

Two suggestions for improving the school were made by the graduates: (a) instructors should participate in more research with industry, and (b) the English courses should place more emphasis on preparing graduates for proper communications with other people, especially prospective employers.

Table 19

Weekly Salaries of Employed Furniture Drafting Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	0	0
$60-69	1	0
$70-79	1	0
$80-99	1	1
$100-119	0	0
$120-140	0	0
>$140	2	2
No Response	1	0

Table 20

Opinions of Furniture Drafting Graduates on

Instructional Materials, Laboratory Equipment

Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	2	4	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	4	2	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	0	6		0	0
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	3	3		0	0

Mechanical drafting. Five of 16 mechanical drafting graduates returning questionnaires for a 31 per cent return on the first survey. During the second survey, four questionnaires were returned from the five mailed for an 80 per cent return.

On both surveys all graduates indicated that they were working as mechanical draftsmen.

The geographical location of graduates participating in the first survey included four in Catawba County and one in Moore County. On the second survey three were located in Catawba County and one in Iredell County.

Table 21 contains a distribution of the weekly salaries of the mechanical drafting graduates responding to the two surveys. The median salary occurred in the $80-99 increment on the first survey and in the $120-140 increment on the second survey. Salaries, on the first survey, ranged from the $60-69 increment to the $120-140 increment. On the second survey, the range was from the $100-119 increment to the >$140 increment.

Core drafting courses, physics, and mathematics were indicated as being the most helpful or useful to the graduates on the job. No courses were listed as being of little or no value to the graduate either on the job or at home.

No significant changes were recommended in the proportion of the curriculum devoted to mathematics, English, reading, social studies, science, and laboratory work.

Table 22 contains a summary of the graduates with respect to instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

Table 21

Weekly Salaries of Employed Mechanical Drafting Graduates by Frequency of Responses

Increments	First Survey	Second Survey
<$50	0	0
$50-59	0	0
$60-69	1	0
$70-79	0	0
$80-99	3	0
$100-119	0	2
$120-140	1	2
>$140	0	1
No Response	0	0

Table 22

Opinions of Mechanical Drafting Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	4	1	0	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	5	0	0	0	0
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Study Assignments	0	3		1	1
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	5	0		0	0

All responding graduates indicated that attending the school had "paid off" for them and that, based upon their success and the quality of the program, they were willing to recommend the school to their friends.

Two suggestions for improving the school were made by the graduates: (a) courses in electrical and electronic theory should be added to the mechanical drafting curriculum, and (b) more electives should be available to all students.

Analysis of the Findings for the Divisions and Institution

Questionnaires were mailed to 308 graduates of the institution during the first survey. Two hundred and five questionnaires were returned for a 67 per cent return. On the second survey 129 of 216 questionnaires were returned for a 60 per cent return. Table 23 is a summary of questionnaire returns for the curricula, divisions, and institution.

The vocational division returns decreased eleven per cent from the first survey to the second while the technical division returns increased by 15 per cent and the institution totals decreased by seven per cent.

The employment status of graduates by divisions and for the institution on both surveys is indicated in Table 24. Eighty-one per cent of the employed vocational division graduates responding to the first survey were working at jobs related to the training received. On the second survey, 90 per cent were working at jobs related to the training received.

All of the employed technical division graduates responding to the first survey were working at jobs related to the training received. On the second survey, 94 per cent were working at jobs related to the training received.

Table 23

Questionnaire Returns for Curricula, Divisions, and Institution

Curriculum	First Survey			Second Survey		
	Mailed	Returned	% Return	Mailed	Returned	% Return
Automotive Mechanics	46	30	65	30	20	67
Electrical Installation and Maintenance	15	13	87	13	8	62
Machine Shop	15	12	71	12	7	58
Practical Nursing	23	18	78	18	9	50
Upholstery	62	36	58	36	16	44
Upholstery Cutting and Sewing	101	67	66	67	38	57
Total for Vocational Division	262	176	67	176	98	56
Agricultural Business	8	7	88	7	6	86
Architectural Drafting	10	8	80	8	7	88
Business Administration	--	--	--	11	7	64
Electronics	6	3	50	3	3	100
Furniture Drafting	6	6	100	6	4	67
Mechanical Drafting	16	5	31	5	4	80
Total for Technical Division	46	29	63	40	31	78
Total for Institution	308	205	67	216	129	60

Table 24

Employment Status of Graduates of Vocational and Technical Divisions and the Institution by Frequency of Responses

Employment Status	First Survey			Second Survey		
	Voc. Div.	Tech. Div.	Inst.	Voc. Div.	Tech. Div.	Inst.
Employment Related to Training	128	23	151	75	17	92
Employment Unrelated to Training	30	0	30	8	1	9
Unemployed	8	2	10	7	0	7
Military Service	10	4	14	8	13	21

Eighty-three per cent of the total employed graduates responding to the first survey were working at jobs related to the training received. On the second survey, 91 per cent were working at jobs related to the training received.

Employed graduates were located in the geographical areas shown on Table 25.

At the time of the first survey 61 per cent of the employed vocational graduates were working in Catawba County. On the second survey 65 per cent were located in Catawba County.

Thirty-eight per cent of the employed technical division graduates were working in Catawba County at the time of the first survey. On the second survey 50 per cent were working in Catawba County.

Fifty-eight per cent of the total employed graduates responding to the first survey were working in Catawba County. At the time of the second survey 62 per cent were employed in Catawba County.

Tables 26 through 28 summarize weekly salaries for employed graduates of the vocational and technical divisions and the institutions respectively.

The median salary for employed vocational division graduates occurred within the $70-79 increment on the first survey and in the $100-119 increment on the second survey. Salaries, on the first survey, ranged from the <$50 increment to the >$140 increment. The range on the second survey was from the $50-59 increment to the >$140 increment.

The median salary for employed technical division graduates occurred within the $80-99 increment on the first survey and in the $120-140 increment on the second survey. Salaries, on the first survey, ranged from

Table 25

Geographical Locations of Employed Graduates of Divisions and the Institution by Frequency of Responses

Geographical Location	First Survey			Second Survey		
	Voc. Div.	Tech. Div.	Inst.	Voc. Div.	Tech. Div.	Inst.
Catawba County	100	9	109	58	10	68
Caldwell County	16	2	18	5	1	6
Burke County	17	3	20	11	2	13
Iredell County	7	4	11	3	2	5
Alexander County	4	0	4	2	0	2
Lincoln County	3	1	4	2	0	2
Watauga County	1	0	1	0	0	0
Other	16	5	21	8	5	13

Table 26

Weekly Salaries of Employed Vocational Division Graduates by Frequency of Responses

Increment	First Survey	Second Survey
<$50	8	0
$50-59	28	5
$60-69	28	9
$70-79	21	10
$80-99	25	14
$100-119	18	22
$120-140	11	16
>$140	4	6
No Response	16	2

Table 27

Weekly Salaries of Employed Technical Division Graduates by Frequency of Responses

Increment	First Survey	Second Survey
<$50	0	0
$50-59	2	0
$60-69	2	0
$70-79	4	0
$80-99	9	1
$100-119	1	7
$120-140	2	6
>$140	2	5
No Response	1	0

Table 28

Weekly Salaries of Employed Institution Graduates by Frequency of Responses

Increment	First Survey	Second Survey
<$50	8	0
$50-59	30	5
$60-69	30	9
$70-79	25	10
$80-99	34	15
$100-119	19	29
$120-140	13	22
>$140	6	11
No Response	17	2

the $50-59 increment to the >$140 increment. The range on the second survey was from the $80-99 increment to the >$140 increment.

The median salary for employed institution graduates occurred within the $70-79 increment for the first survey and in the $100-119 increment on the second survey. Salaries, on the first survey, ranged from the <$50 increment to the >$140 increment. The range on the second survey was from the $50-59 increment to the >$140 increment.

Employed graduates of each division indicated that the respective core curriculum courses were the most helpful or useful on the job. No courses were listed a sufficient number of times to be considered of little or no value to a significant number of graduates in the vocational and technical divisions.

No significant changes were recommended by the responding graduates of any of the curricula as to the proportions of their respective curricula devoted to mathematics, English, reading, shop work, and social studies.

Curriculum changes of significance were recommended by graduates of the agricultural business and electronics curricula. Agricultural business graduates indicated that: (a) more time should be devoted to laboratory work, and (b) not enough science courses were included in the curriculum. Electronics graduates recommended that more time be devoted to laboratory work.

Tables 29 through 31 depict opinions of graduates, by divisions and the institution respectively, on instructional materials, laboratory equipment, class work and study assignments, and quality of instruction.

All responding graduates of the technical division indicated that

Table 29

Opinions of Vocational Division Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	90	51	0	0	4
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	114	41	4	0	1
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	2	142		0	17
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	128	42		2	0

Table 30

Opinions of Technical Division Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	17	16	1	0	0
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	28	4	0	1	1
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	2	27		1	4
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	21	10		3	0

Table 31

Opinions of Institution Graduates on Instructional Materials, Laboratory Equipment, Class Work and Study Assignments, and Quality of Instruction

Item	Rating by Frequency of Responses				
	Excellent	Fair	Poor	Insufficient	Out-Dated
Instructional Materials	107	67	1	0	4
	Excellent	Fair	Poor	Insufficient	Out-Dated
Laboratory Equipment	142	45	4	1	2
	Too Heavy	About Right		Repetitious	Too Easy
Class Work and Assignments	4	169		1	21
	Mostly Excellent	Mostly Fair		Occasionally Poor	Usually Poor
Quality of Instruction	149	52		5	0

attending the school had "paid off" for them and that, based upon their success and the quality of the program, they were willing to recommend the school to their friends. Four graduates of the vocational division indicated that attending the school had not "paid off" for them. All graduates of the vocational division responding to the question indicated that they were willing to recommend the school to their friends.

Eighty-one, or 46 per cent, of the graduates of the vocational division received additional training after graduation; 36 though company sponsored courses, 25 through self-study, 10 at other educational institutions, and 10 at Catawba Valley Technical Institute.

Twenty-three, or 64 per cent, of the graduates of the technical division received additional training after graduation; nine at Catawba Valley Technical Institute, six at other institutions, five through self-study, and three through company sponsored courses.

The following is a summary of the general suggestions for improving the school made by the graduates:

1. More emphasis should be placed on practical than on theoretical subjects
2. Strive for quality in choosing teachers
3. More electives should be available to all students
4. Help graduates secure jobs
5. The school needs better methods of scheduling courses
6. Instructors should participate in more research with industry
7. The English courses should emphasize the preparation of graduates

for proper communications with other people, especially prospective employers

8. More emphasis should be placed on vocational programs and less emphasis on business programs

Chapter 4

Summary, Conclusions, and Recommendations

Chapter 4 contains a summary of the study, the conclusions drawn based upon the findings, and recommendations made in view of the findings.

Summary

The follow-up study of vocational and technical graduates of Catawba Valley Technical Institute concerned itself with surveying the graduates of 12 curricula in the vocational and technical divisions for the purpose of presenting data that may be useful in evaluation to the Board of Trustees, Administration, and Faculty.

The findings of the study were based upon information received from questionnaires mailed to graduates.

Two surveys were used in the study. The first survey, conducted in May, 1966, involved all graduates of the 12 curricula. The second survey was conducted in January, 1968, and included an identical questionnaire mailed to graduates who returned the first questionnaire.

Each graduate was asked to reply to questions primarily concerning employment, geographical location of employment, salary, value of training received, willingness to recommend school to friends, additional training received since graduation, and suggestions for improving the school. Graduates were also asked to evaluate the curricula, instructional materials, equipment, facilities, and instruction.

On the first survey 67 per cent of the graduates in both the vocational and technical divisions returned the questionnaires. A considerably

better rate of return, 78 per cent, was achieved on the second survey for graduates of the technical divison than for vocational division where a 56 per cent occurred. A 60 per cent return for all graduates on the second survey was achieved.

At the time of the first survey, 74 per cent were working in occupations related to the training received, 14 per cent in occupations unrelated to training, five per cent were unemployed, and seven per cent were in military service. Of the graduates replying to the second survey, 72 per cent were working in occupations related to training, seven per cent in occupations unrelated to training, five per cent were unemployed, and 16 per cent were in military service.

Eighty-one per cent of the employed vocational division graduates responding to the first survey were working at jobs related to the training received. All of the employed technical division graduates responding to the first survey were working at jobs related to the training received.

On the second survey, 90 per cent of the employed vocational and 94 per cent of the technical division graduates were working at jobs related to the training received.

Eighty-eight per cent of the employed graduates were located in Catawba County at the time of the first survey. Other locations included ten per cent each in Caldwell and Burke Counties, six per cent in Iredell County, two per cent each in Lincoln and Alexander Counties, one per cent in Watauga County, and 11 per cent in other locations. At the time of the second survey 62 per cent were in Catawba County, 12 per cent in Burke County, five per cent each in Caldwell and Iredell Counties, two per cent each in Lincoln and Alexander Counties, and 12 per cent in other locations.

A tendency was found for a higher percentage of technical than vocational graduates to find employment out of Catawba County.

The median salary for employed graduates participating in the first survey occurred within the $70-79 increment on the questionnaire and in the $100-119 increment on the second survey. On both surveys the median salary for technical division graduates was one increment higher than for vocational division graduates, or approximately $15 per week on the first survey, and $20 per week on the second survey.

Courses listed by graduates of both divisions as being the most helpful or useful to them on the job were predominantly core curriculum courses.

No significant changes in the proportions of the curriculum devoted to the various courses were recommended by the graduates of ten of the twelve curricula.

Ratings of instructional materials by graduates were 60 per cent excellent, 37 per cent fair, one per cent poor, and two per cent out-dated. Laboratory equipment was rated by 73 per cent as excellent, 23 per cent as fair, two per cent as poor, one per cent as insufficient, and one per cent as out-dated.

Class work and study assignments was rated about right by 87 per cent, too heavy by two per cent, repetitious by one per cent, and too easy by ten per cent. Quality of instruction was rated excellent by 72 per cent, mostly fair by 25 per cent, and occasionally poor by three per cent.

Ninety-eight per cent of the graduates indicated that attending the school had "paid off" for them.

Fifty per cent of the graduates reported that they had received additional training or study since graduation.

Conclusions

Based upon the findings of this study the following conclusions can be made:

1. Graduates of the vocational and technical divisions of Catawba Valley Technical Institute tend to obtain employment in occupations for which they are trained.
2. Graduates of the vocational and technical divisions of Catawba Valley Technical Institute find employment near the institution.
3. The curricula having graduates in this study are sufficiently organized and balanced to enable graduates to have proper job satisfaction.
4. Equipment and facilities were adequate to properly prepare graduates for employment in occupations for which they were trained.
5. Graduates of the curricula in the study felt that attending the school was worthwhile.
6. Average salaries paid to graduates of the technical division are somewhat higher than average salaries paid to graduates of the vocational division.
7. The quality of instruction was reported to be very good in all curricula studied.

Recommendations

The following general recommendations are offered in view of the findings presented in this study:

1. Since Catawba Valley Technical Institute is a publicly supported institution, the public should be made aware of the findings of this study. School counselors and others concerned with vocational and educational counseling should be provided a summary of the study.
2. A continuous follow-up program should be made a function of the Student Personnel Services division of Catawba Valley Technical Institute. Data on graduates should be secured from employers as well as graduates for comparison.
3. The Board of Trustees, Administration, and Faculty should evaluate the suggestions made by graduates for improving the school and the curricula.
4. A study should be made by an agency, independent of Catawba Valley Technical Institute, to determine the effect, if any, that the institution has made in helping to prepare a properly trained work force in the Catawba Valley area.

The following specific recommendations are offered in view of the findings presented in this study:

1. A study should be made to compare the graduates of the vocational division curricula with persons trained by apprenticeship and other types of on-the-job training programs. The comparison should be made in terms of (a) adequacy of training for immediate occupation as well as for preparation for advancement, (b) salary differences, and (c) employer and employee evaluation of the respective training programs.

2. A separate comprehensive follow-up study on graduates of each curriculum should be conducted by each curriculum chairman to provide more specific information on the respective graduates.
3. Prospective employers should be provided with the appropriate salary information reveiled in this study. This information could be used by employers as guidelines for employment of graduates.

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Appendices

Appendix A

The Questionnaire

(First) (Middle) (Last) Curriculum _____

Address _____ Year Graduated 19 _____
(Street) (City) (State)

Now Employed ☐ Full Time ☐ Part Time _____
(Name of Employer) (Address)

Job Title or description _____ Name of Supervisor _____

Salary Range per week: ☐ Less than $50 ☐ $50-59 ☐ $60-69 ☐ $70-79 ☐ $80-99 ☐ $100-119 ☐ $120-140 ☐ over $140

Jobs Held Since Graduation:

	Name of Firm	Job Title or Description	Period: From-To
1.			
2.			
3.			

1. How did you get your first job after graduation? ☐ had it before ☐ with school help ☐ found it yourself ☐ Employment Office ☐ not working yet ☐ went into service
Comments:

2. To what extent is your present job related to your training at this school?
☐ what I trained for ☐ somewhat related to my training ☐ not related at all
Comments:

3. How necessary was your school training to getting and keeping this job?
☐ required ☐ very necessary ☐ helpful ☐ no help at all
Comments:

4. What subjects or courses taken at this school were *most* helpful or useful on your job?
1. _____ 2. _____ 3. _____
4. _____ 5. _____
Comments:

5. What subjects or courses taken at this school had little or no value to you either on the job or at home?
1. _____ 2. _____ 3. _____
4. _____ 5. _____
Comments:

6. Were you required to take enough courses in the following areas?

MATHEMATICS	ENGLISH	READING	SHOP PRACTICE
☐ more than enough	☐ more than enough	☐ more than enough	☐ more than enough
☐ sufficient	☐ sufficient	☐ sufficient	☐ sufficient
☐ not enough	☐ not enough	☐ not enough	☐ not enough

SCIENCE	LABORATORY WORK	SOCIAL STUDIES
☐ more than enough	☐ more than enough	☐ more than enough
☐ sufficient	☐ sufficient	☐ sufficient
☐ not enough	☐ not enough	☐ not enough

Comments:

7. How good were the textbooks and other materials with which you were taught?
☐ excellent ☐ fair ☐ poor ☐ insufficient ☐ out-dated
Comments:

8. How good was the shop and laboratory equipment on which you were taught?
☐ excellent ☐ fair ☐ poor ☐ insufficient ☐ out-dated
Comments:

9. How would you rank the daily class work and study assigments that you had?
☐ too heavy ☐ about right ☐ repetitious ☐ too easy
Comments:

10. Without mentioning names, how would you rank the teaching?
☐ mostly excellent ☐ mostly fair ☐ occasionally poor ☐ usually poor
Comments:

☐ yes, very well ☐ yes, some ☐ no, or very little ☐ no, not at all

Comments:

Based upon your success on the job and the quality of program you completed, would you recommend this school to your friends?

☐ yes ☐ no ☐ doubtful

Do you work at a second job? ☐ yes ☐ no

If so, is this job related to your school training? ☐ yes ☐ no

Comments:

Have you taken additional training or study since graduation?

☐ at this school ☐ at another school ☐ in the plant ☐ self-study

Comments:

What suggestions would you make for improving this school (teaching practices, materials, equipment, building, administrative practices, or any other area)?

Appendix B

Cover Letter - First Survey

HICKORY, NORTH CAROLINA
TELEPHONE 327-9124 • 464-4106

It has always been the sincere desire of Catawba Valley Technical Institute to provide the best education and job training that we can. Frequently, we get back reports from employers and from our graduates that lead us to believe we are doing a good job. We would like to have your opinion directly from you.

We made the enclosed questionnaire to help you rate the education you received at CVTI. Most of the answers can be checked, but a few are blanks to be filled in. After each question, there is a small space in which you can add statements of your own, if you wish. If there is not enough room for your statements, just add an extra sheet and fold it up in the card.

When you have answered the questions, re-fold the card so that all of your answers are on the inside and the return address and stamp are on the outside. Remove the protective paper from the loose end of the seal and place the seal across the bottom edge so that the card cannot unfold, and then mail it back to us.

We are looking forward to getting your reply and appreciate very much the time and effort you give to this.

Very truly yours,

Robert E. Paap
President

nc

Enclosure

Appendix C

Reminder

A REMINDER

Please fill out our questionnaire and mail it back to us. We want to add your response to those already received from your fellow students.

Just in case the first questionnaire form did not reach you or has been misplaced, I am sending another copy. Also, enclosed is a copy of my letter which explains why we are doing this. As a loyal graduate of our institution, I am counting on your reply.

Appendix D

Tabulation Card

NAME | ADDRESS | CITY, STATE | YR. GR. | [illegible] CODE | EMPLOYED | [illegible] | [illegible] | JOB | [illegible] | [illegible] | [illegible] | [illegible] | MATH | ENGLISH | [illegible] | [illegible] | SCIENCE | [illegible] | SOC. STUDY | [illegible] | EQUIPMNT | [illegible] | [illegible] | PAID OFF | RECOMMEND | 2ND JOB | RELATED | ADD TRAINING

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

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Appendix E

Cover Letter - Second Survey

CATAWBA VALLEY TECHNICAL INSTITUTE

HICKORY, NORTH CAROLINA
TELEPHONE 327-9124 • 464-4106

PRESIDENT

During the first few months of 1966, you and many other C.V.T.I. graduates responded to our questionnaire designed to help rate the education you received at Catawba Valley Technical Institute. Your loyalty in this regard is very much appreciated.

Almost two years have gone by and we would like for you to again take just a few minutes to respond to the same questionnaire. We hope to update our information to determine what continuing value our training has been to you and to see if significant changes have taken place in the lives of our graduates. The information we receive from you is most important in evaluation as well as planning for the future.

Most of the answers on the questionnaire can be checked, but a few are blanks to be filled in. After each question, there is a small space in which you can add statements of your own, if you wish. If there is not enough room for your statements, just add an extra sheet and fold it up in the card.

When you have answered the questions, re-fold the card so that all of your answers are on the inside and the return address and stamp are on the outside. Remove the protective paper from the loose end of the seal and place the seal across the bottom edge so that the card cannot unfold, then mail it back to us.

We are looking forward to getting your reply and appreciate very much the time and effort you give to this.

Very truly yours,

Robert E. Paap
President

REP/nca

Enclosure