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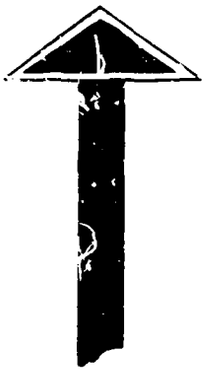
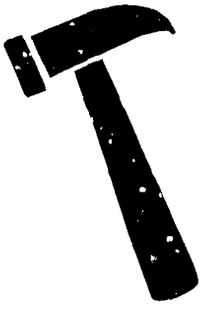
ABSTRACT

Findings are presented based on a survey of work experience of persons who completed or dropped out of industrial and technical vocational programs in Nassau County's high schools during 1965-1969. The report covers, as of 1970, the labor force status of these former students and the kinds of jobs they held. It seeks to determine the extent to which their jobs were related to their high school training and, where they were unrelated, the reasons for that. Earnings in related and unrelated jobs are compared, and the contribution of vocational education in meeting needs for skilled craftsman is considered. The report also summarizes the opinions of the former students about their vocational education experience. (More than half of this report is composed of appendixes, primarily tables presenting detailed numerical results.) (Author)





Vocational-Technical HIGH SCHOOL STUDENTS in Nassau County 1965 - 1969

A Followup Survey

NEW YORK STATE DEPARTMENT OF LABOR

and

NASSAU COUNTY BOARD OF COOPERATIVE EDUCATIONAL SERVICES

in cooperation with

THE STATE EDUCATION DEPARTMENT

VOCATIONAL-TECHNICAL HIGH SCHOOL STUDENTS IN NASSAU COUNTY, 1965-1969

A Followup Study

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The survey on which this report is based was planned and carried out by the New York State Department of Labor in cooperation with the Bureau of Occupational Education Research of the New York State Education Department and the Nassau County Board of Cooperative Educational Services. These agencies also made funds available to employ field staff and for operating expenses. The Labor Department is especially indebted to Bureau Chief Louis A. Cohen and Associate G. Geraldine Dickson of the State Education Department, to Assistant Superintendent Frank J. Wolff and Supervisor Francis J. Russo of the Board of Cooperative Educational Services, and to the staff members of the Nassau County School Districts who compiled the lists of former students.

The survey was carried out by Harold Loeb, Associate Economist, under the supervision of C. A. Pearce, Director of the Division of Research and Statistics.

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SUMMARY

This report presents findings based on a survey of work experience of persons who completed or dropped out of industrial and technical vocational programs in Nassau County's high schools during the 5-year period 1965-1969. It covers, as of 1970, the labor-force status of these former students and the kinds of jobs they held. It seeks to determine the extent to which their jobs were related to their high school training and, where they were unrelated, the reasons for that. Earnings in related and unrelated jobs are compared, and the contribution of vocational education in meeting needs for skilled craftsmen is considered. Finally, the report summarizes the opinions of the former students about their vocational education experience.

The survey was planned and developed with the cooperation of members of the Bureau of Occupational Education Research of the New York State Education Department and the Nassau County Board of Cooperative Educational Services. These agencies also made funds available to help finance the fieldwork.

Ten of Nassau County's public school districts and the County's Vocational Education Extension Board offered industrial and technical education during the period under study. A total of 4,460 students had completed or dropped out of the following programs: auto mechanics, auto body repair, machine shop, carpentry, trade electricity, heating, refrigeration and air conditioning, industrial electronics, printing, sheet metal, industrial and household appliance repair, architectural drafting, technical electronics, instrumentation, mechanical design and construction, and computer operations and programming. Excluded were programs in agriculture, food trades, apparel, home economics, distribution, health, office-clerical, and personal services.

The most popular program was auto mechanics, in which approximately one-fifth of the 4,460 students had been enrolled. Technical electronics was the second most popular, with one-sixth of the total, followed by machine shop, with about one-ninth of the total.

Technical programs (architectural drafting, technical electronics, instrumentation, and mechanical design and construction) represented 35 percent and computer operations and programming, 2 percent of the students in the study. All remaining programs, here classified as "Industrial," accounted for the remaining 63 percent of the 4,460 former students.

Activities After Leaving High School

About 55 percent of the 4,460 former students continued their education after leaving high school -- most (44 percent) in colleges and the rest (11 percent) in private trade and technical schools, correspondence schools, and miscellaneous other educational programs.

The vast majority of those reporting some college work had previously taken high school technical programs in electronics, instrumentation, mechanical design, and architectural drafting. Of those who had been in the technical programs and whose last year of attendance was 1969, 71 percent 1/ were enrolled in

1. Includes about 13 percent who were enrolled in schools but whose primary status was employed, unemployed, or in the armed services.

college in 1970; of those from the industrial programs, 13 percent 1/ were in college.

About 61 percent of the former students reported having had some work experience other than summer jobs between school terms. Comparatively few former students -- about 5 percent -- went into apprenticeship training.

The data do not show the number who served in the armed forces but, at the time of the survey, 28 percent were in uniform.

Current Labor Force Status

About 49 percent of the 4,460 former industrial and technical education students had jobs in the summer of 1970 2/; 6 percent were unemployed. The armed services accounted for 28 percent, and post high school courses of study, 17 percent (all but 1 percent in college). 3/

The unemployed represented 10.2 percent of those in the labor force (the unemployed plus the employed) -- an unusually high unemployment rate, possibly due to economic recession conditions. Unemployment was especially high in the County's defense and aerospace industries during this period.

Training-Related Jobs

A training-related job was strictly defined as one which required a substantial usage of the theory, knowledge, or skill that as taught in the industrial or technical program in which the trainee studied. The survey results showed that 44 percent of 2,731 first full-time jobs held by the former students and 34 percent of 2,202 jobs currently held (in 1970) were related.

	Percent in related job	
	First job	Current job
Total	44.4%	33.7%
Industrial programs	45.9	34.4
Technical programs	38.0	30.1
Computer operations and programming	64.4	59.6

- Persons enrolled in the computer operations and programming program represented the largest proportion in training-related jobs, both with respect to first and current jobs. The smallest proportion was found in technical programs. Of persons who had enrolled in the major industrial programs, those from the printing program had the highest proportion in training-related jobs. Instrumentation ranked last.
- Persons who obtained their first full-time job within 6 months after leaving school were more likely (49 percent) to enter training-related occupations than those whose employment was delayed beyond 6 months (35 percent).

1. Includes about 4 percent who were enrolled in schools but whose primary status was employed, unemployed, or in the armed services.
2. Not included are student "summer jobs" held only for the period between school years.
3. Reflects primary labor-force status.

- A higher proportion of persons who completed their program of study (35 percent of 1,969) were in training-related jobs in 1970 than were noncompleters (22 percent of 233).
- Substantially fewer of those who had only one job during the period studied worked in jobs that were related to their vocational training than in jobs that were unrelated.
- For those who held more than one job, there was a slightly better chance that their 1970 jobs were training-related if their first jobs after leaving school had also been training-related. It was especially clear that if the first job was unrelated the last job was almost always also unrelated.

Accepting as a basic assumption that it is desirable for the student who is ready for a full-time job to work in a trade related to his program of study, these facts underscore the importance of the first job -- or, more to the point, of avoiding a first job that is unrelated.

The principal reason given by those who switched from a related to an unrelated job was dislike of the work in the related job. A second important reason was that wages were too low or that higher wages could be attained in an unrelated job. An inability to find related jobs, as well as various personal reasons, were also cited.

Among those whose first jobs were unrelated, one out of eight indicated they had taken unrelated jobs because they had learned new trades or taken different programs in college or the armed services. This was true especially of technical program students; many of them who went on to college changed their fields when presented there with wider vocational choices.

Kinds of Jobs Held

Of the 2,202 former students working in 1970, the largest proportion (38 percent) were in skilled craftsmen jobs; 4 percent were apprentices in training for craft jobs. About 15 percent were in the technical-professional job group (primarily technician-type jobs), 11 percent were in operative jobs (primarily motor vehicle drivers), and 9 percent were in clerical jobs. The remainder were in service jobs (primarily policemen and firemen), and laborers' jobs.

Craft Jobs

Special interest centers on the craft-job field because the development of craft skills is a prime objective of industrial-vocational education at the high school level.

Twenty percent of the 2,202 former students were working in craft jobs related to their field of training. Another 18 percent were in craft jobs that were not related to their field of training. Those working as apprentices and craftsman helpers added another 7.4 percent, bringing to about 45 percent the number who were in craftsman or craftsman-related jobs.

A comparison of these numbers with total needs for craftsmen indicates that the contribution of high school industrial-vocational programs in Nassau County was a minor one -- less than 6 percent, even if those in craft, craftsman helper, and apprenticeship jobs unrelated to their high school program are included.

Earnings

First full-time jobs held by former students that were related to their industrial and technical fields of training in high school yielded lower hourly earnings on the average than did first jobs that were unrelated. By the time current job status had been reached the difference had disappeared. There was no significant overall difference in average earnings between related and unrelated jobs.

Among jobs held in 1970, average hourly earnings were higher in related than in unrelated jobs in six programs, lower in six programs, and approximately the same in four programs:

Related jobs higher	Related jobs lower	About the same
Carpentry ($5.43-$3.60)	Sheet metal ($2.25-$4.74)	Industrial and household appliance repair ($3.48-$3.49)
Computer operations ($3.43-$2.67)	Auto Body ($3.25-$3.87)	Electronics ($3.36-$3.38)
Mechanical design ($4.00-$3.40)	Trade electricity ($3.87-$4.30)	Auto mechanics ($3.74-$3.84)
Heating ($4.21-$3.71)	Instrumentation ($3.63-$3.68)	Technical electronics $3.83-$3.74)
Architectural drafting ($4.04-$3.79)	Refrigeration ($3.66-$3.83)	
Printing ($3.77-$3.56)	Machine shop ($3.33-$3.45)	

Among those former students who had only one full-time job after leaving high school, current average earnings in related jobs were higher than in unrelated jobs. Where last jobs were different from the first, average wages were slightly higher when the first job was related than when it was unrelated to high school training. All these differences were small, however, and therefore have limited significance.

Persons with training in industrial fields who went into construction crafts - whether related or unrelated to their specific field of training -- tended to earn more than those who took jobs in other crafts.

The data support the hypothesis that post-high school education and training have a direct bearing on earnings levels. Those with such experience had higher average hourly earnings than those without it, in both jobs related and jobs unrelated to their high school field of training; earnings of those in the unrelated jobs were highest.

On the whole, post-high school education and training appear to be at least as important a determinant of earnings levels as employment in a job related to the high school course of study. The data also indicate that apprenticeship had a somewhat greater effect in raising earnings than college education, and that vocational-type training in the military services had little effect.

Opinions Concerning Schooling

Former students who expressed opinions about the industrial and technical education they received in high school generally gave high ratings to the quality of the teaching of shop subjects and to shop equipment available for instruction. Guidance counseling was considered poor by many, and many gave low ratings to the help they received from the school's staff in obtaining their first jobs.

STATUS OF FORMER VOCATIONAL-TECHNICAL HIGH SCHOOL STUDENTS, NASSAU COUNTY, 1970

During the 5-year period from 1965 through 1969, 4,460 students either graduated or dropped out of selected industrial and technical programs 1/ in Nassau County high schools. Of this number, 86 percent completed their programs and 14 percent did not. About 96 percent of the 4,460 students graduated, including many who did not complete the programs in which they had been enrolled.

High schools in 10 of Nassau County's 11 public school districts offered industrial and technical education programs during this period. Such programs were also available at the training center operated by the Vocational Education Extension Board. The Franklin Square School District (Sewanhaka H.S.) had the largest enrollment while the Freeport School District had the smallest.

School District	Total		Program completers		Program dropouts	
	Number	Percent	Number	Percent	Number	Percent
Total	4,460	100.0	3,841	100.0	619	100.0
Franklin Square	1,296	29.1	1,157	30.1	139	22.5
East Meadow	367	19.4	709	18.5	158	25.5
Voc. Educ. Ext. Bd. .	780	17.5	613	16.0	167	26.9
Levittown	397	8.9	348	9.1	49	7.9
Merrick	377	8.5	324	8.4	53	8.6
Hicksville	254	5.7	231	6.0	23	3.7
Plainview	151	3.4	142	3.7	9	1.5
Mineola	118	2.6	115	3.0	3	0.5
Lawrence	100	2.2	85	2.2	15	2.4
Valley Stream	87	2.0	86	2.2	1	0.2
Freeport	33	0.7	31	0.8	2	0.3

Study Programs

The subject group of 4,460 students had been in 16 industrial and technical programs. The most popular program was auto mechanics, which accounted for about one-fifth (907) of the 4,460 students. It was given in every one of the Nassau County high schools that had a vocational curriculum. The interest that many teenage boys have in owning and servicing their own automobiles was probably a principal reason for the popularity of this program, although the shortage of auto mechanics was a factor also.

Technical electronics, accounting for more than one-sixth of the total, was the second most popular program. Knowledge of this subject is considered good preparation not only for college-level electrical engineering programs but also for jobs in Nassau County, where, over the years, many electronic technicians have been employed. Sewanhaka High School had two-fifths of the students in this program. Three of the Nassau schools did not offer it.

1. This figure excludes students in agriculture, food trades, apparel, home economics, distribution, health, office-clerical, and personal services programs. Limited available funds and staff precluded a study of all vocational programs offered in the County. The included programs reflect the Labor Department's special interest in craft trades and technical occupations.

The machine-shop program was the third most popular, accounting for about one-ninth of the 4,460 students.

About 2 percent (89) of the students surveyed were females. Most of them (63) studied computer operations and programming, representing 63 percent of that enrollment. Printing, in which 10 females comprised about 5 percent of the total, ranked second as a program popular with females. The remaining females were in technical programs -- electronics (8), instrumentation (5), architectural drafting (2), and machine design and construction (1).

Table 1 below gives the number of students in each of the 16 programs covered in the survey. Table 2 on page 7 gives the distribution of former students who were included in the survey according to the programs they had taken and the year in which they graduated or dropped out of the program.

The data show that students who completed or dropped out of programs surveyed were 6 percent fewer in 1969 than in 1965. Increases in the number of students who had been in one of the industrial programs (0.7 percent) and in the relatively small computer operations and programming program (29 percent) were more than offset by an 18-percent decline in students from the technical programs. The number of students leaving the programs declined steadily from the 1966 peak of 998 to the 1969 low of 837.

Table 1. Number Who Completed and Failed to Complete Industrial and Technical Programs of Study

Program	Total		Completers		Noncompleters	
	Number	Percent	Number	Percent	Number	Percent
Total	4,460	100.0	3,841	100.0	619	100.0
Auto mechanics	907	20.2	782	20.2	125	20.2
Technical electronics	790	17.7	691	18.0	99	16.0
Machine shop	517	11.6	427	11.1	90	14.5
Carpentry	383	8.6	329	8.6	54	8.7
Electronics	310	7.0	269	7.0	41	6.6
Mechanical design and construction	271	6.1	249	6.5	22	3.6
Architectural drafting	263	5.9	231	6.0	32	5.2
Instrumentation	235	5.3	215	5.6	20	3.2
Printing	199	4.5	176	4.6	23	3.7
Auto body	145	3.3	110	2.9	35	5.7
Heating	113	2.5	91	2.4	22	3.6
Computer operations and programming	100	2.2	72	1.9	28	4.5
Refrigeration and air conditioning	96	2.2	82	2.1	14	2.3
Trade electricity	59	1.3	57	1.5	2	0.3
Appliance repair	53	1.2	41	1.1	12	1.9
Sheet metal	19	0.4	19	0.5	-	-

Individual programs showed sharply different trends, half of the programs discharging 1/ more students in 1969 than in 1965 and half of the programs

1. Included are all who left the programs for any reason whatever -- graduates, dropouts, and expellees.

discharging fewer students. Among the 12 programs that reported 100 or more students over the 5-year period, the most significant changes occurred in heating (up 52 percent from 1965 to 1969), printing (up 49 percent), architectural drafting (down 43 percent), machine shop (down 27 percent), and technical electronics (down 18 percent).

Table 2. Number in Survey By Last Year of Attendance

Program	Total	1965	1966	1967	1968	1969
Total, all programs	4,460	888	998	891	846	837
Industrial programs	2,801	543	620	553	538	547
Auto body	145	30	24	25	40	26
Auto mechanics	907	170	192	184	192	169
Carpentry	383	75	91	77	68	72
Trade electricity	59	12	15	10	12	10
Heating	113	21	25	19	16	32
Refrigeration and air conditioning	96	15	27	27	4	23
Electronics	310	55	77	58	63	57
Printing	199	35	37	36	39	52
Machine shop	517	121	121	101	86	88
Sheet metal	19	3	2	2	5	7
Industrial and household appliance repair	53	6	9	14	13	11
Computer operations and programming	100	17	16	25	20	22
Technical programs	1,559	328	362	313	288	268
Architectural drafting	263	67	62	48	48	38
Technical electronics	790	165	187	152	151	135
Instrumentation	235	48	50	49	39	49
Mechanical design and construction	271	48	63	64	50	46

The Followup Survey

A major objective of this study was to determine the present status of the students who graduated or dropped out of industrial and technical education programs during the 1965-1969 period -- whether they were working, in school, in the armed services, or unemployed. Once this was determined, the study focused on those with jobs, particularly on their earnings and the relationship, if any, between their jobs and their programs of study. The data presented in the report are estimates based on 2,437 responses weighted to represent the 4,460 former students. 1/

Labor Force Status

About 49 percent of the 4,460 former industrial and technical education students in 1970 had jobs; 17 percent were in school (16 of the 17 percent taking

1. See Appendix A for a technical explanation of the survey and weighting procedures.

college-level courses of study); 28 percent were in the armed services; 6 percent were unemployed. Less than one-half of 1 percent were not accounted for, or were placed in other categories. (See Appendix table C 1.)

In general, the job opportunities of industrial and technical program graduates were more limited in 1970 than in the years just before. The boom conditions of the late 1960's were no longer present. Industrial activity had slowed down and defense contractors were laying off workers, not hiring them.

As shown in table 3, 10.2 percent of the former industrial and technical education students in the labor force (the employed plus the unemployed) were unemployed. This is higher than the overall unemployment rate in Nassau County in July-August 1970, which was about 5½ percent. The 10.2-percent rate, however, is substantially lower than the estimated unemployment rate for young people in Nassau County at that time, estimated to have been in the 12-16 percent range. 1/ It should be noted, however, that few of the students in the survey were younger than 19.

Approximately 28 percent of all who graduated or dropped out of the industrial and technical programs studied were, during the 1965-69 period, in the military service in the summer of 1970. Because of the higher rate of college entrance among those taking technical courses, only about 18 percent of the technical students were in military service. Computer operations and programming students represented the smallest proportion (16 percent) in military service; 63 percent of these students were females.

One-fourth of the former students 2/ were enrolled in school (all but 2 percent in colleges) at the time of the survey in 1970. The vast majority were young people who, when in high school, had been in technical programs in electronics, instrumentation, mechanical design, or architectural drafting. About half (49 percent) 3/ of those who had been in these technical programs were in college and 1 percent were in private trade schools or institutes.

The year in which the former students either completed or dropped out of their high school industrial or technical education programs was an important determinant of their 1970 status. Compare, for example, the status of those who completed high school work in 1965 and those who finished in 1969. The 1965 graduates and dropouts had been out of high school for 5 years; most of them had completed their military service (only 15 percent were still in the military) and their schooling (only 6 percent were in school); more than 72 percent were employed. In contrast, only 48 percent of the 1969 graduates and dropouts were

1. Youth 16-19 years of age in the New York Metropolitan area during the year 1970 had an unemployment rate that was 2.94 times the overall rate. Assuming that this relationship existed in Nassau County too the rate would have been about 16 percent. It is believed that the rate may have been somewhat lower than this, since opportunities for youths probably were better in the suburbs than in the City.

2. Includes about 9 percent who were enrolled in schools but whose primary status is given in tables 3 and 4 on pages 9 and 10 as employed, unemployed, or in the armed services.

3. Includes about 13 percent who were enrolled in schools but whose primary status is given as employed, unemployed, or in the armed services.

employed and 21 percent were in military service. The fact that many more in this group were subject to the draft is evidenced by the 39-percent and 35-percent rates for the 1967 and 1968 groups. On the other hand, one-quarter of the class of 1969 were attending school in 1970. 1/

Table 5. Present Status, as of 1970, of Persons Who Had Been Enrolled in Industrial-Technical Programs

Program	Total		Had jobs	In a/ school	In armed forces	Unemployed b/		Other
	Number	Percent	Percent	Percent	Percent	Percent c/	Rate d/	Percent
Total	4,460	100.0	49.5	16.5	28.0	5.6	10.2	0.4
Industrial programs, total	2,801	100.0	54.5	5.4	34.1	5.6	9.4	0.4
Auto mechanics	907	100.0	57.6	4.1	32.0	5.3	8.4	1.0
Machine shop	517	100.0	55.5	7.0	30.0	7.5	12.0	-
Carpentry	383	100.0	54.8	1.6	37.6	6.0	9.9	-
Printing	199	100.0	47.7	8.5	32.2	11.6	19.5	-
Electronics	310	100.0	54.2	11.3	32.9	1.6	2.9	-
Heating	113	100.0	54.0	7.1	32.7	6.2	10.3	-
Refrigeration and air conditioning .	96	100.0	50.0	5.2	41.7	3.1	5.9	-
Auto body	145	100.0	46.2	3.4	47.6	2.8	5.6	-
Trade electricity ..	59	100.0	49.1	1.7	39.0	8.5	14.7	1.7
Industrial and household appliance repair	53	100.0	52.8	-	47.2	-	-	-
Sheet metal	19	100.0	63.1	-	31.6	5.3	7.7	-
Technical programs, total	1,559	100.0	40.2	36.9	18.0	4.4	9.9	0.5
Technical electronics	790	100.0	38.7	34.9	21.8	3.7	8.7	0.9
Instrumentation	235	100.0	23.4	60.1	8.9	7.2	23.6	0.4
Mechanical design and construction .	271	100.0	42.8	33.6	17.0	6.6	13.4	-
Architectural drafting	263	100.0	57.0	25.5	15.6	1.9	3.2	-
Computer operations and programming ..	100	100.0	47.0	12.0	16.0	24.0	33.8	1.0

a. With few exceptions, these were post-high school courses of study.

b. Includes 66 who were not seeking work. One-third had been in the computer operations and programming program, which explains why the rate is relatively high.

c. Percent of total.

d. Percent of sum of employed and unemployed.

1. For labor-force status of the former students from each program according to their last year of attendance, see Appendix tables C 2a-e.

Table 4. Current Labor-Force Status by Last Year of Attendance

Employment status	Total	1965	1966	1967	1968	1969
	Number					
Total	4,460	888	998	891	846	837
Employed	2,202	643	480	338	336	405
In related jobs	742	229	143	121	107	142
Percent of employed	33.7	35.6	29.8	35.8	31.8	35.1
Unemployed	251	51	77	43	31	49
In military service	1,251	133	301	343	298	176
In school	737	52	137	165	176	207
Other	13	5	3	2	3	-
Not reported	6	4	-	-	2	-
	Percent					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Employed	49.5	72.4	48.1	38.0	39.7	48.4
In related jobs	16.6	25.8	14.3	13.6	12.6	17.0
Percent of employed	33.7	35.6	29.8	35.8	31.8	35.1
Unemployed	5.6	5.7	7.7	4.8	3.7	5.9
In military service	28.0	15.0	30.2	38.5	35.2	21.0
In school	16.5	5.8	13.7	18.5	20.8	24.7
Other	0.3	0.6	0.3	0.2	0.4	-
Not reported	0.1	0.5	-	-	0.2	-

Training-Related Jobs

A principal objective of this survey was to determine the extent to which jobs taken by persons who had been enrolled in high school industrial and technical education programs were related to the field of study taken in these programs. This section of the report presents data, therefore, on the "relatedness" of both the first job held after leaving high school and the present job -- as of 1970.

A strict definition of relatedness was followed. A job was classified as related if its performance required a substantial part of the theory, knowledge, and/or skill that was taught in the industrial or technical program in which the person had been enrolled. On the other hand, if familiarity with subject matter or manipulative skills required by the job was of the sort that could have been acquired in any one of a number of programs or kinds of work experience, the job was not considered related to the subjects studied.

Also considered unrelated was a job whose performance could be learned in a brief period of instruction on the job; this kind of job was judged unrelated even if it was in the same industrial field as the course of study. Also placed in the unrelated category was the job that was in the same general industrial

field but that required a different or more extensive kind of preparation than that received in the course of study.

Thus, a relationship was imputed between the auto mechanic program and the jobs of auto mechanic helper or apprentice, auto service manager, writer, or parts man, and motorized construction equipment mechanic. On the other hand, the jobs of auto service station attendant, automobile salesman, and manufacturing plant mechanic were considered to be only slightly related and, as such, were put in the "unrelated" category.

Relatedness of jobs to training programs might have been defined more broadly to encompass jobs that utilize, to any extent, manual skills and knowledge of tools, materials, mathematics, etc., taught in a program. The narrower concept was chosen to help bring more clearly into focus the significance of specialization of vocational programs on a trade basis. 1/

Many circumstances and considerations enter into a youngster's decision concerning the type of work he chooses for a career. From data reported on the training-relatedness of jobs by the former vocational and technical program students, it is apparent that the field of high school training, though an important influence, is not an overriding one. Some youths enter or are directed into programs in which they have an avocational rather than a vocational interest, such as automobile mechanics; or for which they are intellectually, tempermentally, or physically unsuited; or in which their early interest erodes. Others, seeking work in their field of training, find job opportunities limited, wage rates unacceptably low, working conditions in the industry onerous; or they become disillusioned when they discover that their high school training does not qualify them for journeyman status. Still others learn new trades in the armed services or change their fields of study in college.

First Full-Time Jobs

Forty-four percent of the 2,731 workers, for whom data were available, reported that their first full-time jobs were in fields considered to be related to their high school training. Those who had been enrolled in the computer operations and programming program (64 percent) and in the industrial programs (46 percent) were more likely to have entered related occupations than those who had taken the technical programs (38 percent).

Significant variations, however, were found within the major groupings. Among the larger industrial programs, about 63 percent of those trained in the printing trades reported training-related jobs, compared with 28 percent of those trained in carpentry and cabinetmaking. For the technical programs, the proportions ranged from 49 percent of those who had taken electronics to 8 percent of the instrumentation program students. (See Appendix table C 3).

1. Appendix B shows for each program of study the last jobs held by the former students that were considered related and unrelated.

Table 5. First Jobs in Training-Related Field by Selected Program (Percent of those reporting one or more jobs)

Program	Total		First job obtained	
	Number	Percent	Within 6 months after leaving school	More than 6 months after leaving school
Total, all programs	2,731	44.4	49.3	34.5
Industrial programs	1,966	45.9	50.0	35.0
Auto body	91	52.7	51.6	57.1
Auto mechanics	650	48.0	52.0	36.3
Carpentry	279	28.0	28.7	16.7
Trade electricity	44	36.4	39.5	16.7
Heating	83	56.6	56.3	64.7
Refrigeration and air conditioning	64	43.8	43.3	66.7
Electronics	206	48.1	47.2	59.7
Printing	143	62.9	72.9	42.3
Machine shop	357	46.5	55.8	20.2
Other industrial programs ..	49	38.8	55.9	-
Computer operations and programming	73	64.4	74.1	33.3
Technical programs	692	38.0	41.6	34.0
Architectural drafting	166	26.5	23.2	31.0
Technical electronics	313	48.6	50.8	45.4
Instrumentation	83	8.4	14.8	5.4
Mechanical design and construction	130	46.2	69.6	33.3

The data indicate that persons who obtained their first full-time jobs within 6 months after leaving school were more likely (49 percent) to enter occupations related to their field of study than those whose employment was delayed beyond 6 months (35 percent). This difference suggests that some persons may learn new trades in the armed services and pursue them in civilian life; some may be discouraged from seeking work in their field of training because they feel they have forgotten too much; and others change fields of study in college.

The Current Job

About one-fifth (529) of the former industrial and technical students who reported some work experience were, at the time of the survey in the summer of 1970, in the armed services, attending school, or unemployed. Of the remaining 2,202 -- those employed -- about one-third were in jobs related to their training.

A smaller proportion of those employed in 1970 were in related jobs than was true for those in first jobs. The largest proportion with training-related jobs (60 percent) was found among those who had been enrolled in the

computer operations and programming programs, and the smallest proportion (30 percent) among those who had been in the technical programs.

Among the major industrial programs (34 percent) printing students again ranked first with 52 percent in related jobs, and carpentry students (21 percent) remained at the bottom of the list. Although instrumentation was the only program with relatively more students employed in jobs related to their training (11 percent) than had been so employed in their first jobs (8 percent), it continued to rank last in the proportion of former students whose current jobs were in training-related fields.

Table 6. Current Jobs in Training-Related Field by Selected Program
(Percent of those employed, Summer 1970)

Program	Total		Completers		Noncompleters	
	Number	Percent	Number	Percent	Number	Percent
Total, all programs	2,202	33.7	1,928	35.9	274	18.2
Industrial programs	1,528	34.4	1,321	36.9	207	18.4
Auto body	67	29.9	44	43.2	23	4.3
Auto mechanics	523	35.2	456	37.1	67	22.4
Carpentry	210	21.4	181	22.7	29	13.8
Heating	61	42.6	55	40.0	6	66.7
Refrigeration and air conditioning	48	41.7	42	47.6	6	-
Electronics	168	45.2	147	48.3	21	23.8
Printing	95	51.6	86	52.3	9	44.4
Machine shop	287	27.9	248	30.2	39	12.8
Other industrial programs	69	36.2	62	40.3	7	-
Computer operations and programming	47	59.6	37	64.9	10	40.0
Technical programs	627	30.1	570	31.8	57	14.0
Architectural drafting	150	24.0	137	26.3	13	-
Technical electronics	306	35.6	274	37.6	32	18.8
Instrumentation	55	10.9	51	7.8	4	50.0
Machine design and construction .	116	32.8	108	35.2	8	-

Relatively more program completers were in related jobs than was true of noncompleters: 35.9 percent compared with 18.2 percent. There were exceptions: the percentage of noncompleters in related jobs was higher than that of completers in the fields of heating and instrumentation. But the noncompleters of these programs -- six in heating, four in instrumentation -- were too few to be significant.

Students whose last year of attendance in industrial or technical programs was 1965, 1967, or 1969 were more likely to be in related jobs than those whose last year was in 1966 or 1968. However, this relationship is not stable and may not be significant:

Total	33.7%
1965	35.6
1966	29.8
1967	35.8
1968	31.8
1969	35.1

Relatedness of First and Last Jobs

Of all former students with some work experience (2,731), about 45 percent held only one job between the time they left school and the period of the survey in the summer of 1970. The remaining 1,511 (55 percent) had more than one job. (See Appendix table C 3.)

The job-relatedness of these two groups is shown by program in table 7 on page 15. It may be summarized as follows:

	Number	Percent
Total	2,731	-
Those with only one job	1,220	-
Related	511	41.9
Unrelated	709	58.1
Those with more than one job	1,511	-
First job related, last related	380	54.1
First job related, last unrelated	322	45.9
First job unrelated, last related	157	19.4
First job unrelated, last unrelated	652	80.6

These findings emerge:

- Substantially more of the one-job holders were doing unrelated work than were doing related work. This difference was especially large in the auto body, carpentry, refrigeration and air conditioning, and machine shop industrial programs, and to an even greater degree in the technical programs (except electronics).
- For those who held more than one job, if the first job was training-related, there was a slightly better chance (than if it was unrelated) that the last job would also be related. This relationship was especially marked in the heating, trade electricity, printing, sheet metal, computer operations and programming, and technical programs. It did not hold in the auto body, carpentry, and machine shop programs.
- If the first job was unrelated, the last job was almost always unrelated too.

Assume as a general proposition that it is desirable for the student, ready for a full-time job, to work in a trade related to his program of study. Then the foregoing facts underscore the importance of the first job -- or, more to the point, of avoiding a first job that is unrelated.

The overall picture of the job shifters shows more shifting out than shifting into related occupations:

	Number	Percent
Total	1,511	100.0
Stayed in related jobs	380	25.1
Stayed in unrelated jobs	652	43.2
Shifted from related to unrelated	322	21.3
Shifted from unrelated to related	157	10.4

Table 7. Relatedness of First and Last Jobs

Program	Those with only one job				Those with more than one job								Total	Net shift from (-) and to (+) related jobs	
	Total		Related	Unrelated	First job related				First job unrelated						
					Total		Last related	Last unrelated	Total		Last related	Last unrelated			
	Number	Percent			Number	Percent			Number	Percent				Number	Percent
Total, all programs	1,220	100.0	41.9	58.1	702	100.0	54.1	45.9	809	100.0	19.4	80.6	1,511	-165	-10.9
Industrial programs	806	100.0	41.3	58.7	570	100.0	50.2	49.8	590	100.0	20.5	79.5	1,160	-163	-14.1
Auto body	35	100.0	40.0	60.0	34	100.0	38.2	61.8	22	100.0	18.2	81.8	56	- 17	-30.4
Auto mechanics	236	100.0	46.6	53.4	202	100.0	51.0	49.0	212	100.0	17.9	82.1	414	- 60	-14.5
Carpentry	139	100.0	24.5	75.5	44	100.0	43.2	56.8	96	100.0	13.5	86.5	140	- 12	- 8.6
Trade electricity	19	100.0	57.9	42.1	5	100.0	80.0	20.0	20	100.0	35.0	65.0	25	+ 6	+24.0
Heating	24	100.0	58.3	41.7	33	100.0	57.6	42.4	26	100.0	23.1	76.9	59	- 8	-13.6
Refrigeration and air conditioning	30	100.0	40.0	60.0	16	100.0	50.0	50.0	18	100.0	16.7	83.3	34	- 5	-14.7
Electronics	106	100.0	51.9	48.1	44	100.0	50.0	50.0	56	100.0	35.7	64.3	100	- 2	- 2.0
Printing	55	100.0	50.9	49.1	62	100.0	62.9	37.1	26	100.0	34.6	65.4	88	- 14	-15.9
Machine shop	141	100.0	34.0	66.0	118	100.0	40.7	59.3	98	100.0	19.4	80.6	216	- 51	-23.6
Sheet metal	4	100.0	-	100.0	7	100.0	85.7	14.3	2	100.0	-	100.0	9	- 1	-11.1
Industrial and household appliance repair	17	100.0	41.2	58.8	5	100.0	100.0	-	14	100.0	7.1	92.9	19	+ 1	+ 5.3
Computer operations and programming	37	100.0	62.2	37.8	24	100.0	91.7	8.3	12	100.0	25.0	75.0	36	+ 1	+ 2.8
Technical programs	377	100.0	41.1	58.9	108	100.0	66.7	33.3	207	100.0	15.9	84.1	315	- 3	- 1.0
Architectural drafting	71	100.0	35.2	64.8	19	100.0	78.9	21.1	76	100.0	5.3	94.7	95	-	-
Technical electronics	168	100.0	57.7	42.3	55	100.0	61.8	38.2	90	100.0	25.6	74.4	145	+ 2	+ 1.4
Instrumentation	62	100.0	11.3	88.7	-	-	-	-	21	100.0	14.3	85.7	21	+ 3	+14.3
Mechanical design and construction	76	100.0	34.2	65.8	34	100.0	67.6	32.4	20	100.0	15.0	85.0	54	- 8	-14.8

Of the 1,840 persons whose first and/or last jobs were unrelated to their field of training, 1,376 (75 percent) gave reasons for taking unrelated jobs.

Table 8. Reasons for Taking Unrelated Jobs

Reason given	Total, all unrelated jobs	First job unrelated	First job related, last job unrelated
Total, Number reporting ...	1,376	1,147	229
Percent	100.0	100.0	100.0
Did not like the work	30.9	30.4	33.2
Wages offered were too low	16.4	12.6	35.4
Related jobs were not available .	16.1	17.8	7.9
Learned new trade:	12.1	12.5	12.5
In college	8.2	9.1	3.9
In armed services	3.9	3.4	8.6
High school training insufficient	8.4	9.9	0.9
Other reasons	16.1	16.8	12.2

The major reason given for accepting jobs in fields unrelated to high school training was dislike of the training-related work. Included in this category were those who tried related jobs and found that they disliked the work; those who, though not dropping out, lost interest in the field while in school; and those who never intended to work in the fields in which they were trained. A second major reason given was that wages were too low in the related job or that higher wages could be obtained in an unrelated job. A third main reason was the unavailability of related jobs at any level of skill or at the level the respondents believed their training had prepared them for. (Some overlap is likely between this category and the "low-wage" group. 1/)

Reasons for taking unrelated jobs among those whose first jobs were unrelated (column 2 in table above) followed a somewhat different pattern from the reasons given by those who shifted from related to unrelated jobs (column 3). A much more important reason, among those who shifted from related to unrelated jobs (35 percent) than for those whose first jobs were unrelated (13 percent), was unsatisfactory wage levels. On the other hand, the unavailability of acceptable related jobs, and the belief that their high school training did not qualify them for suitable jobs, were more likely reasons for workers accepting unrelated first jobs than for causing them to shift from related to unrelated jobs.

About 12 percent of the workers took unrelated jobs because they had learned a new trade in college or in the armed services. Included in the "other" category of reasons (16 percent) were these: the desire for a convenient or easy job while attending college or awaiting induction into the armed services; the desire for a job believed to offer more security or better opportunities for advancement; and the failure to be accepted as an apprentice in a related trade.

1. In cases where the only related jobs offered to the applicants were in the helper or other low-skill classifications, some reported that wages were too low while others reported that jobs were unavailable.

There are considerable differences in the reasons given for change of field by students from industrial programs and students from the technical and computer operations programs. The figures below show that there are major differences in the proportions of those who changed their field in college and those who found that their high school training did not qualify them for acceptable jobs. Employers generally prefer that applicants have 2 years of college training for technician jobs. At the same time, since a much higher proportion of technical students went on to college, it is not surprising that many of them changed their career objectives when presented with the broader range of vocational choices available to college students. Because beginning wages in technician occupations tend to be higher than in industrial fields, relatively half as many technical as industrial students indicated that they changed fields because of the wage factor.

Reason given	Total, all programs	Industrial programs	Technical and computer operations programs
Total: Number reporting	1,376	966	410
Percent	100.0	100.0	100.0
Did not like the work	30.9	32.2	27.9
Wages offered were too low	16.4	19.6	9.0
Related jobs were not available .	16.1	17.1	13.9
Learned new trade:	12.1	9.4	18.5
In college	8.2	4.1	17.8
In armed services	3.9	5.3	0.7
High school training insufficient	8.4	6.4	12.9
Other reasons	16.1	15.3	17.8

Kinds of Jobs Held

What kinds of jobs were the graduates and dropouts from Nassau County's industrial and technical high school programs working at during the summer of 1970?

Of those who were working at that time, the largest proportion (38 percent) were in skilled-craftsman jobs. Together with apprentices in training for craft jobs, they accounted for 42 percent of the total. About 15 percent were in the professional and technical job group.

Occupation group	Number		Percent	
	Total	Related	Total	Related
Total	2,202	742	100.0	100.0
Craftsmen	837	435	38.0	58.7
Professional and technical	333	176	15.1	23.7
Operatives	239	41	10.9	5.5
Clerical	208	23	9.4	3.1
Service	124	4	5.6	0.5
Apprentices	94	55	4.3	7.4
Laborers	91	-	4.1	-
Managerial	61	4	2.8	0.5
Sales	37	2	1.7	0.3
Not reported (a)	178	2	8.1	0.3

a. Data insufficient for occupation group classification.

The numbers of employed workers in the occupation groups varied, to some extent, according to year of last attendance (table 9). This was especially true of the professional and technical group: those whose last year of attendance was in the later period -- 1967, 1968, 1969 -- were a smaller proportion of the total than those whose last year was in 1965 and 1966. This may be a reflection of the fact that many 1967-1969 graduates had not yet completed their professional training by the summer of 1970.

Of the 333 in professional and technical jobs, 214 (64 percent) worked in technician jobs -- most of them as electrical and mechanical engineering technicians (75), product testers and inspectors (44), and draftsmen (42). Another 68 went to engineering school and obtained jobs as electrical, mechanical and other types of engineer. Of the 14 professional architects, 12 were in jobs related to their high school program.

Of the 61 managers, officials, and proprietors, only four were in fields related to their high school training -- two in printing and two in auto service; 12 were self-employed.

Clerical jobs were among the easiest to obtain in the summer of 1970. Some served as temporary jobs for boys on their way to the armed services or as interim jobs for boys going to school. Jobs as stock clerks, shipping and receiving clerks, and general clerks were most common. Government service jobs included mail carriers and postal clerks.

The only clerical curriculum program included in this study was computer operations and programming. Of the 100 students who had been enrolled in these programs, 63 were girls; almost half the girls (46 percent) worked at some time as keypunch operators (included in the computer-operations curriculum). Of the 47 boys and girls who were employed at the time of the survey, 14 were keypunch operators; three were tabulating machine operators; two, computer console operators; and four, all girls, were programmers or systems analysts.

The large group of craftsman jobs breaks down as follows:

	Total		Related		Percent
	Number	Percent	Number	Percent	related
Total	837	100.0	435	100.0	52.0
Construction craftsmen	107	12.8	29	6.7	27.1
Foremen	6	0.7	3	0.7	50.0
Metalworking craftsmen	89	10.6	53	12.2	59.6
Printing trades	59	7.0	35	8.0	59.3
Linemen, servicemen and other public utility craftsmen ...	117	14.0	51	11.7	43.6
Mechanics and repairmen	398	47.6	244	56.1	61.3
Automobile	226	27.0	164	37.7	72.6
Other	61	7.3	20	4.6	32.8

The tabulation above shows that about half the craftsmen were mechanics and repairmen, about four out of seven of whom worked in the automotive repair trades. The next most important group was that of linemen and servicemen, who worked either for the New York Telephone Company or Long Island Lighting Company. Construction craftsmen, accounting for about one out of eight in the craft trades,

Table 9. Occupations of Employed Workers by Occupation Group and Last Year of Attendance

Occupation group	Total		1965		1966		1967		1968		1969	
	Total	Related	Total	Related	Total	Related	Total	Related	Total	Related	Total	Related
Total, number	2,202	742	643	229	480	143	338	121	336	107	405	142
Total, percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional and technical, number	333	176	155	84	97	46	39	20	29	16	13	10
percent	15.1	23.7	24.1	36.7	20.2	32.2	11.5	16.5	8.6	15.0	3.2	7.0
Managerial, number	61	4	13	2	23	-	4	2	9	-	12	-
percent	2.8	0.5	2.0	0.9	4.8	-	1.2	1.7	2.7	-	3.0	-
Clerical, number	208	23	49	7	51	1	24	7	42	1	42	7
percent	9.4	3.1	7.6	3.1	10.6	0.7	7.1	5.8	12.5	0.9	10.4	4.9
Sales, number	37	2	3	-	13	-	3	1	8	-	10	1
percent	1.7	0.3	0.5	-	2.7	-	0.9	0.8	2.4	-	2.5	0.7
Craftsmen, number	837	435	273	121	176	81	122	68	111	64	155	101
percent	38.0	58.7	42.5	52.8	36.8	56.6	36.1	56.1	33.0	59.8	38.2	71.2
Apprentices, number	94	55	23	11	17	6	11	11	28	18	15	9
percent	4.3	7.4	3.6	4.8	3.5	4.2	3.3	9.1	8.3	16.8	3.7	6.3
Operatives, number	239	41	45	4	34	5	43	10	43	8	74	14
percent	10.9	5.5	7.0	1.7	7.1	3.5	12.7	8.3	12.8	7.5	18.3	9.9
Service, number	124	4	42	-	14	4	29	-	20	-	19	-
percent	5.6	0.5	6.5	-	2.9	2.8	8.6	-	6.0	-	4.7	-
Laborers, number	91	-	18	-	16	-	26	-	7	-	24	-
percent	4.1	-	2.8	-	3.3	-	7.7	-	2.1	-	5.9	-
Not reported, number	178	2	22	-	39	-	37	2	39	-	41	-
percent	8.1	0.3	3.4	-	8.1	-	10.9	1.7	11.6	-	10.1	-

was the third largest group. Of the 107 in this group, about 60 percent were carpenters (41) and electricians (21). More than half (21) of those employed as carpenters had been in the carpentry program. Most of the 89 metalworking craftsmen were machinists (61) and tool-and-die makers (15); two-thirds of them had been in related programs. Almost 60 percent (35) of the 59 former students employed as printing craftsmen had been in the high school printing program.

The largest group of operatives were motor vehicle drivers. The second largest group consisted of semiskilled helpers to craftsmen; 35 were auto mechanic and body repairman helpers and 24 were helpers in the construction trades. Most operatives in related jobs were in the helper category, aiming, on the basis of on-the-job training and experience, for the status of skilled craftsmen.

Apprenticeship is a way of achieving craft status through formal on-the-job training and related school instruction. At one time or another during the 5-year period, there were 233 apprentices among those covered by the survey. This was about 9 percent of those employed at any time during the period. Of these 233, 93 dropped out of the apprenticeship program, 46 completed, and 94 were still employed as apprentices in the summer of 1970. Apprentice electricians and carpenters comprised 52 percent of the 94 current apprentices, with apprentice metalworkers accounting for an additional 33 percent. Auto mechanics and auto body repair apprentices were only 2 percent of the total.

Three out of five of those who became service workers were policemen or firemen. Offering substantial security and status, these jobs attract many high school graduates, especially veterans. Laborer work often afforded good temporary or alternative jobs for those who didn't like their chosen fields or were awaiting induction into the military. A substantial proportion of such jobs were in the relatively high-paid construction industry.

Contribution to Meeting Needs for Craftsmen

To what extent did the industrial education program of Nassau County contribute to the need for craftsmen in the County during the period studied?

As may be seen from the following table, the printing trades program led all others in the proportion of former students who were working in related craft jobs in 1970. They were followed by refrigeration and air conditioning and heating.

Table 10. Distribution of Workers in Craft and Noncraft Jobs by Program(a)

Program	Total		In related craft jobs		In unrelated craft jobs		In noncraft jobs	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	2,202	100.0	435	19.8	402	18.3	1,365	61.9
Printing	95	100.0	42	44.2	5	5.3	48	50.5
Refrigeration and air conditioning	48	100.0	20	41.7	9	18.8	19	39.5
Heating	61	100.0	25	41.0	10	16.4	26	42.6
Trade electricity	29	100.0	10	34.5	1	3.4	18	62.1
Auto body repair	67	100.0	20	29.9	31	46.3	16	23.8
Auto mechanics	523	100.0	152	29.1	121	23.1	250	47.8
Industrial and household appliance repair	28	100.0	7	25.0	7	25.0	14	50.0
Carpentry	210	100.0	25	11.9	66	31.4	119	56.7
All other programs	1,141	100.0	134	11.7	152	13.3	855	75.0

a. Based on Appendix table C 4.

Almost as many persons working in craft jobs in 1970 were working in jobs unrelated to their high school program of training as were working in related jobs -- 402 (18.3 percent) compared with 435 (19.8 percent). If those in unrelated crafts are added to those working in related crafts, the total rises from 19.8 to 38.1 percent. Adding all the apprentices and craftsman helpers to this figure raises the overall total to 45.5 percent.

	Number	Percent
All occupations	2,202	100.0
In related crafts	435	19.8
In unrelated crafts	402	18.3
In related apprenticeship	55	2.5
In unrelated apprenticeship	39	1.8
In related craftsman helper occupations	31	1.4
In unrelated craftsman helper occupations	36	1.7
In all other related occupations	222	10.1
In all other unrelated occupations	982	44.4

Based on Appendix table C 4.

The contribution of these programs during the 1965-1970 period may be recapitulated as follows:

Craft	Total	In jobs related to high school program	In jobs unrelated to high school program
Total	998	521	477
Construction	181	59	122
Metalworking	124	78	46
Printing	65	40	25
Public utility linemen & servicemen	119	52	67
Mechanics	439	271	168
Auto	263	189	74
Other	70	21	49

Public vocational high schools, in general, have not been a significant source of input to the craft work force in the United States. A comparison of Nassau County's total needs for craftsmen during the period surveyed with the number of former industrial vocational students employed as craftsmen indicates that the contribution of the County's public vocational schools was also a minor one -- less than 6 percent, even when those in craft, helper, and apprenticeship jobs unrelated to their high school training programs were included.

	Employment			Deaths and retirements	Total need	Total in high school program		In related jobs	
	1965	1970	Change			Number	Percent	Number	Percent
Craftsmen, total	71,200	81,000	9,800	7,600	17,400	998	5.7	521	3.0
Construction	23,700	25,700	2,000	2,600	4,600	181	3.9	59	1.3
Metalworking	8,900	8,500	- 400	700	300	124	41.3	78	26.0
Printing	3,600	3,900	300	400	700	65	9.3	40	5.7
Public utility	3,100	3,500	400	300	700	119	17.0	52	7.4
Mechanics	22,500	28,300	5,800	2,400	8,200	439	5.4	271	3.3
Auto	6,000	7,000	1,000	400	1,400	263	18.8	189	13.5
Other	9,400	11,100	1,700	1,200	2,900	70	2.4	21	0.7

Earnings

A common method of evaluating the effectiveness of manpower training programs -- before-and-after comparisons of earnings on jobs held -- is not applicable in the present survey. Few of the persons covered had full-time jobs before or during their participation in high school industrial and technical education programs. Comparisons of the earnings levels of persons in related and unrelated jobs are relevant, however, as are comparisons of the changes in earnings levels from first full-time jobs after schooling to the last ones.

Earnings data for both first and current jobs were available for 1,674 (76 percent) of the 2,202 former students working in the summer of 1970.

Wage levels in various programs. The beginning hourly wage 1/ on first jobs averaged $2.48, on current jobs $3.71, a difference of 50 percent. 2/ Workers who had been in the technical programs had the highest average wage on both the first and current jobs. Of those who had been in the industrial programs, students from the trade electricity, carpentry, and heating programs had the highest average current wages. Workers who had been in computer operations and programming, industrial electronics, and machine shop reported the lowest average current earnings.

Table 11. Average Hourly Earnings in First and Current Jobs

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total, all programs	1,674	$ 2.48	$ 3.71	49.6
Industrial programs	1,203	2.35	3.70	57.4
Auto body	55	2.35	3.67	56.2
Auto mechanics	429	2.35	3.80	61.7
Carpentry	174	2.58	4.01	55.4
Trade electricity	20	2.55	4.08	60.0
Heating	42	2.50	3.90	56.0
Refrigeration and air conditioning	36	2.14	3.75	75.2
Electronics	113	2.39	3.37	41.0
Printing	77	2.44	3.66	50.0
Machine shop	225	2.10	3.41	62.4
Sheet metal	12	2.72	3.50	28.7
Industrial and household appliance repair	20	2.16	3.49	61.6
Computer operations and programming	39	2.11	3.22	52.6
Technical programs	432	2.89	3.77	30.4
Architectural drafting	120	2.76	3.86	39.9
Technical electronics	183	2.94	3.79	28.9
Instrumentation	49	3.12	3.67	17.6
Mechanical design and construction	80	2.84	3.65	28.5

1. For the purposes of analysis all earnings were converted to an hourly basis.

2. The difference was about 67 percent for those whose last year of attendance was 1965 and 27 percent for those who left school in 1969. (See Appendix tables C 5a-e.)

Completers vs. noncompleters. The current wage of former students who completed their high school program averaged about 12 percent higher than the wage of those who did not. The largest difference (37 percent) was found among students (completers vs. noncompleters) who had been in one of the technical programs, and the smallest (8 percent), among those who had taken an industrial program. The large differential between technical program completers and noncompleters reflects the relatively high wages of the professional and technical jobs obtained by many of the completers (many of whom had gone on to college) and the relatively low wages of the clerical and sales jobs of a large proportion of the noncompleters.

	Current wage on current job			
	Completers		Noncompleters	
Program	Number	Wage	Number	Wage
All programs	1,594	$3.75	198	$3.35
Industrial	1,149	3.74	163	3.46
Computer operations and programming .	30	3.27	9	3.01
Technical	415	3.83	26	2.79

Related vs. unrelated jobs. First full-time jobs held by former students that were related to their field of training yielded lower hourly earnings, on the average, than did first jobs that were unrelated. The overall difference, had disappeared by the time current job status had been reached. This means a substantially larger increase in hourly earnings from the related first jobs to the related last jobs than was true for the unrelated jobs. 1/

Average hourly wage levels of the former students were higher in related than in unrelated current jobs in six programs: carpentry, heating, printing, computer operations and programming, architectural drafting, and mechanical design and construction. Wage levels were lower in related than in unrelated jobs in six programs: sheet metal, machine shop, refrigeration and air conditioning, auto body repair, trade electricity, and instrumentation.

There was little difference in the remaining four programs: industrial and household appliance repair, electronics, auto mechanics, and technical electronics.

For 688 of the 1,792 former students for whom current-job wage information was available, the first and current jobs were the same; for 1,104 the current job was different from the first. A comparison of hourly earnings levels in the current jobs shows that:

- Workers who had been in computer operations and technical programs and had only one job had a somewhat higher level of earnings than those whose current job was different from the first. In the industrial program field, on the other hand, there was a substantial difference favoring workers with more than one job.

1. Though an analysis of the data according to the last year of attendance in the program shows an inconsistent pattern of wage levels between related and unrelated first jobs and current jobs, the increase in hourly earnings for related jobs was higher than for unrelated jobs in each year. (See Appendix tables C 6a-e.)

Table 12. Average Hourly Earnings on First and Last Jobs, Classified According to Whether Related or Unrelated to Field of Training

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated			
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage	Related	Unrelated
Total, all programs	733	$2.41	941	$2.54	624	$3.77	1,050	$3.67	56.4	44.5
Industrial programs	549	2.26	654	2.42	436	3.75	767	3.68	65.9	52.1
Auto body	29	1.92	26	2.82	18	3.25	37	3.87	69.3	37.2
Auto mechanics	198	2.26	231	2.43	154	3.74	275	3.84	65.5	58.0
Carpentry	56	2.86	118	2.44	39	5.43	135	3.60	89.9	47.5
Trade electricity	5	2.49	15	2.57	10	3.87	10	4.30	55.4	67.3
Heating	26	2.41	16	2.65	16	4.21	26	3.71	74.7	40.0
Refrigeration and air conditioning	24	1.93	12	2.56	17	3.66	19	3.83	89.6	49.6
Electronics	60	2.40	53	2.37	61	3.36	52	3.38	40.0	42.6
Printing	41	2.38	36	2.51	38	3.77	39	3.56	58.4	41.8
Machine shop	97	1.87	128	2.28	70	3.33	155	3.45	78.1	51.3
Sheet metal	7	3.07	5	2.23	6	2.25	6	4.74	-26.7	112.6
Industrial and household appliance repair	6	2.08	14	2.20	7	3.48	13	3.49	67.3	58.6
Computer operations and programming	25	1.87	14	2.54	28	3.43	11	2.67	83.4	5.1
Technical programs	159	3.02	273	2.82	160	3.91	272	3.69	29.5	30.9
Architectural drafting	36	3.02	84	2.65	36	4.04	84	3.79	33.8	43.0
Technical electronics	82	3.10	101	2.81	88	3.83	95	3.74	23.6	33.1
Instrumentation	-	-	49	3.12	3	3.43	46	3.68	-	18.0
Mechanical design and construction	41	2.83	39	2.84	33	4.00	47	3.40	41.3	19.7

- In the one-job-only group the situation was mixed: in the industrial field, wages were slightly higher in jobs that were related to the field of training than they were in unrelated jobs. In the computer operations field, wages were substantially higher in the related job group, while in the technical field the related and unrelated groups had about the same level of wages.
- Among workers whose current jobs were different from their first jobs, average wages were somewhat higher when both jobs were related, they were higher also when the first job was related and the current one unrelated, than when both jobs were unrelated and when the first job was unrelated and the current one related. These differences tend to be small, however, and considering the small number of cases involved, have limited significance.

Table 13. Current Hourly Earnings, by Relatedness

Relatedness of jobs	All programs		Industrial programs		Computer operations and programming		Technical programs	
	Number of workers	Average hourly rate	Number of workers	Average hourly rate	Number of workers	Average hourly rate	Number of workers	Average hourly rate
All related jobs ...	669	$3.77	478	$3.75	28	$3.43	163	$3.89
All unrelated jobs .	1,123	3.67	834	3.68	11	2.66	278	3.69
More than one job ..	1,104	3.78	865	3.82	25	3.10	214	3.68
Both jobs related	281	3.88	219	3.90	15	3.14	47	4.03
First related, current unrelated .	241	3.79	215	3.87	-	-	26	3.12
Current related, first unrelated	125	3.66	92	3.66	3	4.00	30	3.64
Both unrelated ...	457	3.74	339	3.78	7	2.65	111	3.67
One job only	688	3.60	447	3.27	14	3.40	227	3.85
Related	263	3.70	167	3.34	10	3.69	86	3.90
Unrelated	425	3.53	280	3.23	4	2.69	141	3.82

Effect of post-high school education and training. Just as vocational training in high school may affect the level of earnings on jobs subsequently held, so may education and training received during the post-high school period. It is reasonable to expect that workers with post-high school education and training would command higher levels of earnings than those not having this experience, and that such additional education and training would tend to offset any advantage otherwise enjoyed by vocational students who went directly into jobs related to their high school field of training.

Three types of post-high school education and training were recorded in the survey: college study, apprenticeship training, and military service training with some nonmilitary occupational content. About 55 percent of the former high school students for whom data were available had one or more of these types of education and training:

	Number	Percent
Total	1,792	100.0
Those with none	815	45.5
Those with some	977	54.5
Those with college study	837	46.7
Those without college study	955	53.3
Those with apprenticeship training	179	10.0
Those without apprenticeship training	1,613	90.0
Those with military service	152	8.5
Those without military service	1,640	91.5

The data do tend to support the notion that post-high school education and training raise earnings above levels that would be attained without them. However, the difference overall is small (9 percent) and of limited significance. See Appendix table C 7 for detailed information by program.

The data further suggest that in the group studied apprenticeship training had a somewhat greater effect than college study in increasing earnings, and that training in the military services had no appreciable effect.

High school programs	College study		Apprenticeship training		Military service training	
	Some	None	Some	None	Some	None
All programs	$3.78	$3.66	$4.34	$3.64	$3.71	$3.71
Industrial	3.74	3.69	4.53	3.60	3.70	3.71
Computer operations and programming	3.77	2.97	(a)	(a)	(a)	(a)
Technical	3.84	3.52	(a)	(a)	(a)	(a)

a. Data not significant because of small numbers involved.

The difference tending to favor those with post-high school education and training is found in jobs both related and unrelated to the high school field of training.

Table 14. Current Hourly Earnings, by Post-High School Education

High school programs	Those in related jobs			Those in unrelated jobs		
	With post-high school education or training	Without post-high school education or training	Percent difference	With post-high school education or training	Without post-high school education or training	Percent difference
All programs	$3.95	$3.56	+11.0	$3.81	$3.52	+ 8.2
Industrial	3.88	3.63	+ 6.9	3.88	3.52	+10.2
Computer operations and programming	4.85	3.05	+59.0	2.68	2.65	+ 1.1
Technical	4.01	3.27	+22.6	3.72	3.58	+ 3.9

It is apparent that those students who had some kind of post-high school education or training, and who ended up in a field unrelated to their field of training in high school, did as well or better on the average than those who went into related jobs without the benefit of additional schooling or training. On the other hand, workers in unrelated jobs who had had no post-high school education generally had the lowest earnings. Those having both post-high school education and training and work in related jobs generally fared best.

Earnings in selected jobs. When the analysis is focused on earnings in specific crafts, 1/ the following facts appear:

- Among persons whose training was in auto mechanics, average wages of those whose last job was in this field were lower than of those whose last job was in a construction craft or some other mechanical craft. This was true regardless of last year of attendance -- with the exception of those who finished in 1965.
- Persons with carpentry training who stayed in this craft had a substantial margin of earnings over those who went into other crafts. Since a small number remained in the carpentry trade, however, the significance of this comparison is weakened.
- Relatively few persons who had training in the printing field went into crafts other than printing. Their earnings averaged about the same as those who became printing craftsmen.
- Earnings of persons trained in the machine shop field and who stayed in that field, averaged out somewhat lower than those who went into other crafts.
- In general, persons from these fields of training (auto mechanics, carpentry, printing, and machine shop) who became craftsmen in related trades earned more than persons who went into related or unrelated blue-collar work as machine operators, craftsman helpers, and laborers. The picture was less clear with respect to those going into white-collar fields such as managerial, clerical, sales occupations, and such service jobs as firemen and policemen. In some cases those who became craftsmen in their field of training did better, as measured by their hourly-earnings levels, than those who went into the white-collar field. In others, they did not do as well. (See Appendix table C 8.)

Opinions Concerning Schooling

The following table gives, in percentages, the opinions of Nassau County industrial and technical high school graduates and dropouts concerning five aspects of their high school work.

			Opinion			
	No opinion	Total	Poor	Satisfactory	Excellent	Rating
Teaching in shop subjects	25.9%	100.0%	4.8%	43.4%	51.8%	2.47%
Teaching in other subjects	27.5	100.0	6.1	68.5	25.4	2.19
Shop equipment	26.5	100.0	7.3	45.9	46.8	2.40
Counseling	27.8	100.0	23.4	48.2	28.4	2.05
Job help	57.8	100.0	39.8	38.6	21.6	1.82

1. The number of cases in fields of training not mentioned here is too small for significant comparisons of this kind, which are concerned with individual occupations.

The former students who expressed their opinions gave a high rating to the teaching of shop subjects and to shop equipment available for instruction. Many students considered the guidance counseling they received to be poor. An even higher proportion gave a low rating to the help they received from the school staff in obtaining their first jobs. This point could be interpreted to supplement a finding made earlier in this report, that if the student's first full-time job is unrelated to his field of study the chances are good that his subsequent jobs also will be unrelated.

The opinion rating given in the foregoing table is a simple weighted average of the opinions expressed: "poor," 1; "satisfactory," 2; "excellent," 3. The following table presents these ratings for program completers and noncompleters:

	Completers	Noncompleters
Teaching in shop subjects	2.49	2.34
Teaching in other subjects	2.20	2.11
Shop equipment	2.40	2.34
Counseling	2.05	2.02
Job help	1.84	1.64

Although the differences are not large, noncompleters had a slightly lower opinion of all aspects of the vocational educational program than did the completers. (The difference was especially marked in the case of job help.)

Some differences in opinion concerning the different vocational centers and programs was expected. However, most schools clustered around the average, only a few varying from the average by more than one-tenth of a point in the rating:

Vocational center	Shop subjects	Shop equipment	Counseling	Job help
Average, all centers ..	2.47	2.40	2.05	1.82
Valley Stream	2.56	2.49	2.20	1.65
Franklin Square	2.53	2.35	2.04	1.99
Merrick	2.44	2.48	1.97	1.76
East Meadow	2.52	2.36	1.99	1.64
Freeport	2.33	2.22	2.22	2.25
Hicksville	2.23	2.15	1.98	1.42
Lawrence	2.63	2.71	2.10	1.65
Levittown	2.40	2.15	2.00	1.71
Mineola	2.53	2.47	1.88	1.72
Plainview	2.33	2.29	1.92	1.77
VEEB	2.46	2.47	2.18	1.85

Ratings on shop subject content and shop equipment were, in every case more than satisfactory; the lowest rating (for shop equipment in the heating program) was 2.13. On the other hand, former students from all four technical

programs and from sheet metal and electronics rated the guidance counseling they received as less than satisfactory. Those who had been in the appliance repair program were the only ones who rated guidance counseling as very good, a rating of 2.57:

Table 15. Opinion Ratings of Teaching, Equipment, and Counseling by Program

Program	Teaching in shop subjects	Shop equipment	Counseling
Total, all programs	2.47	2.40	2.05
Industrial programs	2.46	2.36	2.11
Auto body	2.57	2.58	2.29
Auto mechanics	2.38	2.30	2.12
Carpentry	2.49	2.52	2.15
Trade electricity	2.45	2.17	2.22
Heating	2.33	2.13	2.01
Refrigeration and air conditioning	2.41	2.34	2.21
Electronics	2.36	2.39	1.93
Printing	2.69	2.41	2.13
Machine shop	2.52	2.36	2.09
Sheet metal	2.54	2.85	1.91
Industrial and household appliance repair	2.70	2.39	2.57
Computer operations and programming	2.52	2.59	2.07
Technical programs	2.48	2.44	1.95
Architectural drafting	2.39	2.24	1.97
Technical electronics	2.57	2.49	1.92
Instrumentation	2.33	2.54	1.98
Mechanical design and construction	2.62	2.37	1.95

APPENDIX A

TECHNICAL NOTE

During the period 1965-1969, 4,460 students completed or dropped out of the industrial and technical vocational programs that were selected for survey purposes. The names and last-known addresses of only 3,692 of these former students could be obtained from school records; the data for 768 students who had been enrolled in one school district from 1965 to 1968 were not available.

Schedules 1/ were sent to each of the 3,692 former students and 1,134 responded -- some after second requests. This was about 25 percent of the universe (4,460) and 31 percent of the frame (3,692). An additional 1,303 responses were obtained as a result of an intensive telephone and field followup of the 2,558 who had not returned the mailed schedules. The combined total of 2,437 responses accounted for 55 percent of the universe and 66 percent of the frame. Many of the other former students had moved and could not be traced. A small number refused to cooperate.

The response rate varied considerably among the different programs -- from 53 percent of the auto body and sheet metal program students to whom schedules had been sent to 75 percent of those who took the instrumentation program. Because those who had been out of school the longest were most likely to have moved from the addresses in the school records, the response rate increased steadily from 51 percent of those who left school in 1965 to 81 percent of those who left in 1969.

An analysis of the responses indicated that the characteristics of those respondents who returned the mailed schedules were significantly different from those who required a telephone or field interview. On the assumption that the latter were more representative of the nonrespondents, their replies for the most part, were weighted to universe totals for each program and year of separation. Some mailed responses were weighted to adjust differences between the frame and the universe. It was assumed that the mailed response, by program and last year of attendance, of the 768 former students for whom addresses were not available would have been proportionate to the mailed response of those in the frame.

1. See Appendix D.

The following table presents the data on responses by program and last year of attendance. Universe data are shown in table 2 on page 7 of this report.

Appendix Table A1. Number of Responses by Last Year of Attendance and Program

Program	Total	1965	1966	1967	1968	1969	Responses as percent of Universe	Responses as percent of Frame	Percent of responses obtained by mail
Total, all programs	2,437	327	440	501	493	676	54.6	66.0	46.5
Industrial programs	1,464	176	260	303	304	421	52.3	62.5	40.4
Auto body	48	1	5	7	17	18	33.1	52.7	37.5
Auto mechanics	494	65	89	103	119	118	54.5	60.5	36.6
Carpentry	152	15	34	28	23	52	39.7	61.3	28.3
Trade electricity	43	7	9	8	11	8	72.9	72.9	32.6
Heating	67	8	11	8	14	26	59.3	59.3	46.3
Refrigeration and air conditioning ...	61	5	13	17	3	23	63.5	63.5	37.7
Electronics	131	16	19	31	21	44	42.3	66.8	48.1
Printing	126	16	16	22	29	43	63.3	63.3	51.6
Machine shop	303	40	60	69	54	80	58.6	67.2	46.9
Sheet metal	10	2	1	1	4	2	52.6	52.6	10.0
Industrial and household appliance repair	29	1	3	9	9	7	54.7	54.7	37.9
Computer operations and programming	65	17	6	13	7	22	65.0	65.0	63.1
Technical programs	908	134	174	185	182	233	58.2	72.6	55.2
Architectural drafting	114	18	23	17	24	32	43.3	64.0	57.9
Technical electronics	470	76	93	89	98	114	59.5	73.7	54.3
Instrumentation	176	25	26	48	31	46	74.9	74.9	60.8
Mechanical design and construction	148	15	32	31	29	41	54.6	74.4	49.3
Sample as a percent of:									
Universe	54.6	36.8	44.1	56.2	58.3	80.8			
Frame	66.0	50.5	54.1	68.4	74.4	80.8			

OCCUPATION OF LAST JOB, BY PROGRAM

Auto body repair

Related occupations	31
Auto body repairman	26
Auto body repairman helper	5
Unrelated occupations	60
Craftsmen	32
Auto mechanic	6
Carpenter	9
Excavating and grading machine operator	4
Machinist	10
Other craftsmen	3
Clerical workers	10
Letter carrier	2
Shipping and receiving clerk	5
Office machine operator	3
Operatives	9
Deliveryman, routeman, cab driver	6
Other operatives	3
Sales workers	4
Managers, officials, and proprietors	3
Laborer	1
Apprentice: glazier	1

Auto mechanics

Related occupations	252
Craftsmen	215
Auto mechanic	207
Excavating and grading machine operator	3
Other mechanics and repairmen	5
Operatives	34
Auto mechanic helper	30
Welder	4
Managers, officials, and proprietors	2
Sales workers	1
Unrelated occupations	398
Craftsmen	133
Utility lineman and serviceman	20
Auto body repairman	14
Carpenter	9
Printing tradesman	7
Machinist	6
Airplane mechanic and repairman	6
Electrician	3
Excavating and grading machine operator	5
Painter and paperhanger	3
Plumber and pipefitter	4
Roofer and slater	2
Structural metalworker	2
Toolmaker	2
Heating mechanic	3
Cabinet maker	2

continued

Molder, metal	1
Sheet metal worker	2
Office machine mechanic	1
Radio and television mechanic	1
Air conditioning mechanic	1
Other mechanics and repairmen	23
Other craftsmen and kindred workers	16
Operatives	77
Driver: bus, truck, tractor	23
Deliveryman, routeman, cab driver	12
Plumber helper	5
Auto body repairman helper	3
Sailor, deck hand	2
Attendant, auto service and parking	3
Carpenter helper	3
Welder, flame cutter	2
Sheet metal worker helper	1
Machinist helper	1
Electrician helper	1
Other operatives	21
Laborers	43
Clerical workers	41
Shipping and receiving clerk	9
Office machine operator	8
Letter carrier	8
Accounting clerk	2
Cashier	1
Other clerical and kindred workers	13
Service workers	29
Policeman	13
Janitor and sexton	4
Fireman	5
Other service workers	7
Apprentices	16
Electrician	10
Machinist	2
Carpenter	2
Toolmaker	1
Sheet metal worker	1
Professional, technical, and kindred workers	20
Accountant, auditor	7
Data processing systems analyst, programmer	3
Product testing and inspection specialist	2
Medical, dental technician	3
Engineer, industrial	1
Draftsman	1
Electro and mechanical engineering technician	2
Teacher, secondary school	1
Sales workers	14
Managers, officials, and proprietors	11
Occupation not reported	14

continued

Carpentry

Related occupations	66
Craftsmen	36
Carpenter	31
Cabinetmaker	5
Operatives	12
Carpenter helper	7
Other operatives (lumberyard)	5
Apprentice carpenter	14
Service: janitor	4
Unrelated occupations	213
Craftsmen	78
Auto mechanic	16
Electrician	13
Utility lineman and serviceman	7
Machinist	4
Printing tradesman	11
Plumber and pipefitter	2
Toolmaker	3
Patternmaker	3
Sheet metal worker	1
Airplane mechanic	4
Other mechanics and repairmen	12
Other craftsmen	2
Operatives	37
Driver: bus, truck, tractor	13
Attendant, auto service and parking	5
Welder and flame cutter	6
Deliveryman, routeman, cab driver	3
Assembler, metalworking, Class B	2
Plumber helper	4
Other operatives	4
Clerical	30
Shipping and receiving clerk	10
Postal clerk	4
Letter carrier	3
Office machine operator	4
Other clerical and kindred workers	9
Laborers	23
Service workers	13
Janitor	2
Cook	4
Other service workers	7
Apprentices	14
Electrician	12
Toolmaker	2
Managers, officials, and proprietors	4
Draftsman	5
Sales workers	3
Occupation not reported	6

continued

Trade electricity

Related occupations	22
Craftsmen	14
Electrician	5
Utility lineman and serviceman	5
Office machine mechanic	1
Other mechanics	3
Electrician helper	7
Apprentice electrician	1
Unrelated occupations	22
Operatives	4
Plumber helper	2
Other operatives	2
Clerical workers	7
Shipping and receiving clerk	5
Other clerical worker	2
Craftsmen	3
Carpenter	1
Auto mechanic	2
Apprentice printing tradesman	1
Managers, officials, and proprietors	1
Sales workers	1
Mechanical engineering technician	1
Policeman	3
Laborers	1

Heating

Related occupations	39
Craftsmen	35
Heating mechanic and repairman	31
Stationary engineer	4
Apprentice boilermaker	2
Sales worker	1
Heating mechanic helper	1
Unrelated occupations	44
Operatives	11
Driver: bus, truck, tractor	3
Brakeman and switchman, railroad	2
Deliveryman, routeman, cab driver	1
Welder and flame cutter	1
Auto mechanic helper	1
Electrician helper	1
Auto body repairman helper	1
Other operatives	1
Craftsmen	14
Printing tradesman	5
Carpenter	2
Auto mechanic	5
Glazier	1

continued

Other craftsmen	1
Laborers	6
Service workers	4
Janitor	3
Policeman	1
Professional, technical, and kindred workers	2
Sales and service technician	1
Medical technician	1
Clerical workers	1
Apprentice printing tradesman	1
Sales worker	1
Occupation not reported	4

Refrigeration and air conditioning

Related occupations	23
Refrigeration and air conditioning mechanic	23
Unrelated occupations	41
Craftsmen	13
Patternmaker, wood and metal	3
Auto body repairman	1
Cabinetmaker	2
Airplane mechanic	1
Other mechanics and repairmen	5
Other craftsmen	1
Professional, technical, and kindred workers	7
Draftsman	6
Electro and mechanical engineering technician	1
Service workers	9
Policeman	4
Janitor, sexton	2
Other service workers	3
Operatives	4
Driver: bus, truck, tractor	2
Auto mechanic helper	1
Machine tool operator, metalworking, Class B	1
Clerical workers	4
Shipping and receiving clerk	1
Letter carrier	1
Other clerical workers	2
Laborers	3
Managers, officials, and proprietors	1

Electronics

Related occupations	97
Professional, technical, and kindred workers	59
Product testing and inspection specialist	27
Electro-mechanical engineering technician	31
Broadcasting studio technician	1
Craftsmen	31
Utility lineman and serviceman	20
Radio and television repairman	4
Office machine mechanic	2

continued

Other mechanics and repairmen	2
Other craftsmen	3
Operatives	3
Installer, aircraft electronic equipment	2
Radio and television repairman helper	1
Apprentice electrician	2
Occupation not reported	2
Unrelated occupations	109
Professional, technical, and kindred workers	28
Product testing and inspection specialist	17
Airway tower specialist and flight dispatcher	7
Draftsman	1
Musician	1
Data processing systems analyst and programmer	2
Operatives	13
Driver: bus, truck, tractor	2
Attendant, auto service and parking	4
Auto mechanic helper	1
Deliveryman, routeman, cab driver	2
Other operatives	4
Craftsmen	19
Auto mechanic	8
Other mechanics and repairmen	10
Other craftsmen	1
Service workers	11
Janitor and sexton	3
Fireman	3
Policeman	2
Counter and fountain worker	2
Other service workers	1
Clerical workers	9
Letter carrier	3
Postal clerk	1
Other clerical workers	5
Managers, officials, and proprietors	11
Sales workers	4
Laborers	4
Occupation not reported	10

Printing

Related occupations	76
Printing tradesman	47
Office machine operator	7
Apprentice printing tradesman	5
Technical writing and illustration technician	6
Managers, officials, and proprietors	2
Printing tradesman helper	4
Other mechanics and repairmen	5

continued

Unrelated occupations	67
Operatives	19
Drivers: bus, truck, tractor	2
Auto mechanic helper	2
Deliveryman, routeman, cab driver	1
Attendant, auto service and parking	1
Plumber helper	1
Other operatives	12
Service workers	10
Policeman	9
Waiter and waitress	1
Clerical workers	11
Telephone operator	3
Shipping and receiving clerk	2
Other clerical workers	6
Craftsmen	6
Auto body repairman	2
Carpenter	1
Toolmaker	1
Office machine mechanic	1
Other craftsmen	1
Laborers	9
Sales workers	8
Managers, officials, and proprietors	1
Occupation not reported	3

Machine shop

Related occupations	115
Craftsmen	69
Machinist	51
Toolmaker, die maker, die setter	10
Molder, metal	2
Patternmaker, metal	1
Other craftsmen	5
Apprentices	24
Toolmaker, die maker, die setter	16
Machinist	8
Operatives	12
Machinist helper	10
Machine tool operator, metalwork, Class B	2
Professional, technical, and kindred workers	9
Draftsman	5
Teacher, secondary school	2
Mechanical engineering technician	1
Product testing and inspection specialist	1
Sales workers	1

Unrelated occupations	242
Craftsmen	64
Utility lineman and serviceman	21
Auto mechanic	5
Office machine mechanic	4
Radio and television repairman	4

continued

Auto glass installer	3
Electrician	1
Sheet metal worker	1
Other mechanics and repairmen	18
Other craftsmen	7
Operatives	61
Driver: bus, truck, tractor	16
Deliveryman, routeman, cab driver	18
Auto mechanic helper	3
Plumber helper	4
Auto body repairman helper	1
Attendant, auto service and parking	1
Electrician helper	1
Carpenter helper	1
Machine tool operator, metalwork, Class B	1
Other operatives	15
Clerical workers	39
Shipping and receiving clerk	15
Computer console operator	6
Accounting clerk	3
Office machine operator	2
Mail carrier	2
Other clerical and kindred workers	11
Service workers	20
Policeman	13
Janitor	3
Other service workers	4
Professional, technical, and kindred workers	17
Product testing and inspection specialist	6
Draftsman	4
Teacher aide	2
Technical writing and illustration technician	1
Dental technician	1
Architect	2
Musician	1
Laborers	16
Sales workers	11
Managers, officials, and proprietors	7
Apprentices	4
Electrician	2
Sheet metal worker	2
Occupation not reported	3

Sheet metal

Related occupations	6
Sheet metal worker	6
Unrelated occupations	7
Operatives	4
Driver: bus, truck, tractor	1
Deliveryman, routeman, cab driver	2
Other operatives	1
Craftsmen	2
Other mechanics and repairmen	2

continued

Managers, officials, and proprietors	1

Industrial and household appliance repair

Related occupations	13
Mechanics and repairmen	13
Unrelated occupations	23
Craftsmen	8
Electrician	2
Utility lineman and serviceman	4
Auto body repairman	1
Air conditioning repairman	1
Operatives	6
Auto mechanic helper	2
Deliveryman, routeman, cab driver	2
Driver: bus, truck, tractor	1
Other semiskilled metal worker	1
Sales workers	4
Managers, officials, and proprietors	2
Service workers: policeman	1
Clerical workers: cashier	1
Laborers	1

Computer operations and programming

Related occupations	48
Clerical workers	40
Key punch operator	30
Tabulating machine operator	4
Other office machine operator	1
Computer console operator	2
Billing and bookkeeping machine operator	1
Accounting clerk	1
Other clerical and kindred workers	1
Professional, technical, and kindred workers	7
Data processing systems analysis and programming specialist	4
Electronic engineering technician	2
Sales and service technician	1
Craftsmen: office machine mechanic	1
Unrelated occupations	25
Clerical workers	15
Secretary	2
Letter carrier	1
Typist	1
Other clerical and kindred workers	11
Craftsmen	2
Radio and television repairman	1
Other craftsmen	1
Laborers	4
Professional, technical, and kindred workers: accountant	1
Managers, officials, and proprietors: credit man	1
Service workers	1
Apprentice: electrician	1

continued

Architectural drafting

Related occupations	44
Professional, technical, and kindred workers	44
Architectural draftsman	31
Architect	12
Civil engineering and construction technician	1
Unrelated occupations	122
Craftsmen	53
Utility lineman and serviceman	15
Brickmason, stone and tile setter	3
Auto mechanic	3
Office machine mechanic	7
Excavating, grading machine operator	7
Machinist	2
Jeweler, watchmaker	6
Printing tradesman	1
Other craftsmen	9
Professional, technical, and kindred workers	22
Draftsman	8
Sales and service technician	6
Data processing systems analysis and programming specialist	2
Radio operator	2
Designer	2
Teacher, secondary school	2
Clerical workers	14
Other office machine operator	4
Postal clerk	2
Computer console operator	2
Letter carrier	2
Other clerical and kindred workers	4
Serice workers	12
Policeman	6
Cook	3
Other service workers	3
Laborers	8
Operatives	7
Deliveryman, routeman, cab driver	2
Machinist helper	1
Other operatives	4
Managers, officials, and proprietors	4
Apprentice: plumber	2

Technical electronics

Related occupations	154
Professional, technical, and kindred workers	77
Electronic engineering technician	38
Electrical engineer	24
Product testing and inspection specialist	7
Other technical engineers	4
Sales and service technician	2
Other professional, technical, and kindred workers	2

continued

Craftsmen	50
Utility lineman and serviceman	32
Radio and television repairman	6
Electrician	4
Other mechanics and repairmen	8
Apprentices	12
Electrician	9
Utility lineman and serviceman	1
Other mechanics and repairmen	2
Operatives	8
Electrician helper	3
Other operatives	5
Occupation not reported	7
Unrelated occupations	159
Clerical workers	37
Other office machine operator	8
Accounting clerk	6
Shipping and receiving clerk	4
Postal clerk	3
Stenographer	1
Tabulating machine operator	1
Letter carrier	1
Other clerical and kindred workers	13
Professional, technical, and kindred workers	35
Product testing and inspection specialist	8
Mechanical engineering technician	5
Sales and service technician	5
Accountant, auditor	6
Draftsman	2
Data processing systems analysis and programming specialist	3
Industrial engineer	1
Airway tower specialist	2
Medical and health worker	2
Teacher	1
Craftsmen	17
Auto mechanic	9
Painter and paperhanger	2
Plumber and pipefitter	1
Auto body repairman	1
Office machine mechanic	1
Other craftsmen	3
Operatives	17
Driver: bus, truck, tractor	3
Carpenter helper	3
Deliveryman, routeman, cab driver	1
Machinist helper	2
Auto mechanic helper	3
Other operatives	5
Managers, officials, and proprietors	12
Service workers	16
Policeman	13
Janitor	3

continued

Laborers	10
Sales workers	8
Apprentices	4
Auto mechanic	1
Other apprentices	3
Occupation not reported	3

Instrumentation

Related occupations	10
Professional, technical, and kindred occupations	5
Electrical engineer	1
Other technical engineer	1
Product testing and inspection specialist	3
Clerical: office machine operator	2
Craftsmen: radio and television repairman	2
Occupation not reported	1
Unrelated occupations	73
Professional, technical, and kindred workers	28
Electro-mechanical engineering technician	5
Civil engineer	3
Electrical engineer	2
Other technical engineers	3
Product testing and inspection specialist	1
Accountant, auditor	3
Other social scientists	3
Industrial engineer	2
Mechanical engineer	1
Natural scientist	1
Civil engineering and construction specialist	2
Safety and sanitation specialist	1
Medical technician	1
Craftsmen	9
Printing tradesman	3
Electrician	1
Electroplater	2
Utility lineman and serviceman	1
Auto mechanic	1
Other craftsmen	1
Operatives	13
Driver: bus, truck, tractor	6
Other operatives	7
Clerical workers	6
Shipping and receiving clerk	3
Bank teller	1
Other clerical and kindred workers	2
Laborers	7
Service workers	6
Janitor, sexton	3
Policeman	1
Counter and fountain worker	1
Attendant, hospital and other institutions	1

continued

Sales workers	3
Managers, officials, and proprietors	1

Mechanical design and construction

Related occupations	52
Professional, technical, and kindred workers	32
Mechanical engineer	9
Draftsman	7
Electrical engineer	3
Industrial engineer	3
Other technical engineers	7
Mechanical engineering technician	3
Apprentices	8
Toolmaker, diemaker, die setter	7
Machinist	1
Craftsmen	8
Machinist	3
Toolmaker, diemaker, die setter	3
Other craftsmen	2
Operatives	4
Machinist helper	2
Assembler, metalworking, Class B	2
Unrelated occupations	78
Craftsmen	24
Utility lineman and serviceman	8
Office machine mechanic	8
Auto mechanic	4
Plumber and pipefitter	2
Printing tradesman	1
Other craftsmen	1
Professional, technical, and kindred workers	23
Electronic engineering technician	10
Other technical engineers	4
Draftsman	3
Technical writing and illustration specialist	1
Accountant, auditor	3
Musician	2
Clerical workers	10
Computer console operator	3
Letter carrier	2
Other clerical and kindred workers	5
Managers, officials, and proprietors	5
Operatives	6
Carpenter helper	2
Deliveryman, routeman, cab driver	2
Other operatives	2
Service workers	3
Policeman	2
Cook	1
Laborers	5
Occupations not reported	2

Table C 1. LABOR-FORCE STATUS DURING SUMMER 1970 OF VOCATIONAL HIGH SCHOOL COMPLETERS AND NON-COMPLETERS, NASSAU COUNTY, 1965-1969

C 1a. LABOR-FORCE STATUS, BY PROGRAM

Program	Total	Employed		Unemployed	In military service	In school	Other	Not reported
		Total	In program related jobs					
Total, all programs	4,460	2,202	742	251	1,251	737	13	6
Industrial programs	2,801	1,528	525	158	955	150	4	6
Auto body	145	67	20	4	69	5	-	-
Auto mechanics	907	523	184	48	290	37	3	6
Carpentry	383	210	45	23	144	6	-	-
Trade electricity	59	29	12	5	23	1	1	-
Heating	113	61	26	7	37	8	-	-
Refrigeration and air conditioning	96	48	20	3	40	5	-	-
Electronics	310	168	76	5	102	35	-	-
Printing	199	95	49	23	64	17	-	-
Machine shop	517	287	80	39	155	36	-	-
Sheet metal	19	12	6	1	6	-	-	-
Industrial and household appliance repair	53	28	7	-	25	-	-	-
Computer operations and programming	100	47	28	24	16	12	1	-
Technical programs	1,559	627	189	69	280	575	8	-
Architectural drafting	263	150	36	5	41	67	-	-
Technical electronics	790	306	109	29	172	276	7	-
Instrumentation	235	55	6	17	21	141	1	-
Mechanical design and construction	271	116	38	18	46	91	-	-

C 1b. LABOR-FORCE STATUS OF PROGRAM COMPLETERS, BY PROGRAM

Program	Total	Employed		Unemployed	In military service	In school	Other	Not reported
		Total	In program related jobs					
Total, all programs	3,841	1,928	692	192	1,070	635	12	4
Industrial programs	2,383	1,321	487	129	809	116	4	4
Auto body	110	44	19	4	60	2	-	-
Auto mechanics	782	456	169	40	259	20	3	4
Carpentry	329	181	41	21	121	6	-	-
Trade electricity	57	28	12	4	23	1	1	-
Heating	91	55	22	3	25	8	-	-
Refrigeration and air conditioning	82	42	20	3	32	5	-	-
Electronics	269	147	71	4	88	30	-	-
Printing	176	86	45	16	57	17	-	-
Machine shop	427	248	75	33	119	27	-	-
Sheet metal	19	12	6	1	6	-	-	-
Industrial and household appliance repair	41	22	7	-	19	-	-	-
Computer operations and programming	72	37	24	8	16	10	1	-
Technical programs	1,386	570	181	55	245	509	7	-
Architectural drafting	231	137	36	5	39	50	-	-
Technical electronics	691	274	103	20	145	245	7	-
Instrumentation	215	51	4	16	18	130	-	-
Mechanical design and construction	249	108	38	14	43	84	-	-

C 1c. LABOR-FORCE STATUS OF PROGRAM NON-COMPLETERS, BY PROGRAM

Program	Total	Employed		Unemployed	In military service	In school	Other	Not reported
		Total	In program related jobs					
Total, all programs	619	274	50	59	181	102	1	2
Industrial programs	418	207	38	29	146	34	-	2
Auto body	35	23	1	-	9	3	-	-
Auto mechanics	125	67	15	8	31	17	-	2
Carpentry	54	29	4	2	23	-	-	-
Trade electricity	2	1	-	1	-	-	-	-
Heating	22	6	4	4	12	-	-	-
Refrigeration and air conditioning	14	6	-	-	8	-	-	-
Electronics	41	21	5	1	14	5	-	-
Printing	23	9	4	7	7	-	-	-
Machine shop	90	39	5	6	36	9	-	-
Sheet metal	-	-	-	-	-	-	-	-
Industrial and household appliance repair	12	6	-	-	6	-	-	-
Computer operations and programming	28	10	4	16	-	2	-	-
Technical programs	173	57	8	14	35	66	1	-
Architectural drafting	32	13	-	-	2	17	-	-
Technical electronics	99	32	6	9	27	31	-	-
Instrumentation	20	4	2	1	3	11	1	-
Mechanical design and construction	22	8	-	4	3	7	-	-

Table C 2a. PRESENT STATUS, AS OF 1970, OF PERSONS EXITING FROM INDUSTRIAL - TECHNICAL PROGRAMS IN 1965

Program	Total		Had jobs	In 1/ school	In armed forces	Unemployed 2/		Other
	Number	Percent	Percent	Percent	Percent	Percent 3/	Rate 4/	Percent
Total	888	100.0	72.4	5.8	15.0	5.7	7.3	1.1
Industrial programs	543	100.0	78.7	2.4	15.3	2.9	3.6	0.7
Auto mechanics	170	100.0	87.6	1.8	5.3	2.9	3.2	2.4
Machine shop	121	100.0	74.4	5.8	15.7	4.1	5.3	-
Carpentry	75	100.0	93.3	-	6.7	-	-	-
Printing	35	100.0	77.1	2.9	2.9	17.1	18.2	-
Electronics	55	100.0	78.2	3.6	18.2	-	-	-
Heating	21	100.0	100.0	-	-	-	-	-
Refrigeration and air conditioning	15	100.0	80.0	-	20.0	-	-	-
Auto body	30	100.0	-	-	100.0	-	-	-
Trade electricity	12	100.0	100.0	-	-	-	-	-
Industrial and household appliance repair	6	100.0	-	-	100.0	-	-	-
Sheet metal	3	100.0	100.0	-	-	-	-	-
Technical programs	328	100.0	62.2	11.9	15.2	9.5	13.2	1.2
Technical electronics	165	100.0	55.2	12.1	21.2	9.1	14.2	2.4
Instrumentation	48	100.0	31.2	29.2	18.8	20.8	40.0	-
Mechanical design and construction	48	100.0	68.7	6.3	12.5	12.5	15.4	-
Architectural drafting	67	100.0	97.0	3.0	-	-	-	-
Computer operations and programming	17	100.0	70.6	-	-	23.5	25.0	5.9

1. With few exceptions, these were post-high school courses of study.
2. Includes 14 who were not seeking work. About 29 percent had been in the computer operations and programming program, which explains why the rate is relatively high.
3. Percent of total.
4. Percent of sum of employed and unemployed.

Table C 26. PRESENT STATUS, AS OF 1970, OF PERSONS EXITING FROM INDUSTRIAL - TECHNICAL PROGRAMS IN 1966

Program	Total		Had jobs	In 1/ school	In armed forces	Unemployed 2/		Other
	Number	Percent	Percent	Percent	Percent	Percent 3/	Rate 4/	Percent
Total	998	100.0	48.1	13.7	30.2	7.7	13.8	0.3
Industrial programs	620	100.0	52.3	2.7	36.3	8.4	13.8	0.3
Auto mechanics	192	100.0	54.3	3.1	33.3	8.3	13.3	1.0
Machine shop	121	100.0	48.8	6.6	32.2	12.4	20.3	-
Carpentry	91	100.0	50.5	-	40.7	8.8	14.8	-
Printing	37	100.0	35.1	-	56.8	8.1	18.8	-
Electronics	77	100.0	59.7	1.3	36.4	2.6	4.2	-
Heating	25	100.0	36.0	-	48.0	16.0	30.8	-
Refrigeration and air conditioning	27	100.0	40.8	7.4	48.1	3.7	8.3	-
Auto body	24	100.0	95.8	-	4.2	-	-	-
Trade electricity	15	100.0	26.7	-	53.3	20.0	42.9	-
Industrial and household appliance repair	9	100.0	100.0	-	-	-	-	-
Sheet metal	2	100.0	-	-	100.0	-	-	-
Technical programs	362	100.0	42.5	32.9	20.4	3.9	8.3	0.3
Technical electronics	187	100.0	41.7	28.9	24.1	5.3	11.4	-
Instrumentation	50	100.0	28.0	58.0	6.0	6.0	17.6	2.0
Mechanical design and construction	63	100.0	52.4	27.0	19.0	1.6	2.9	-
Architectural drafting	62	100.0	46.8	30.6	22.6	-	-	-
Computer operations and programming	16	100.0	12.5	6.3	12.5	68.7	84.6	-

1. With few exceptions, these were post-high school courses of study.
2. Includes 30 who were not seeking work. About 37 percent had been in the computer operations and programming program, which explains why the rate is relatively high.
3. Percent of total.
4. Percent of sum of employed and unemployed.

Table C 2c. PRESENT STATUS, AS OF 1970, OF PERSONS EXITING FROM INDUSTRIAL - TECHNICAL PROGRAMS IN 1967

Program	Total		Had jobs	In 1/ school	In armed forces	Unemployed 2/		Other
	Number	Percent	Percent	Percent	Percent	Percent 3/	Rate 4/	Percent
Total	891	100.0	38.0	18.5	38.5	4.8	11.3	0.2
Industrial programs	553	100.0	41.6	6.5	46.3	5.6	11.9	-
Auto mechanics	184	100.0	48.9	4.9	40.8	5.4	10.0	-
Machine shop	101	100.0	49.6	7.9	35.6	6.9	12.3	-
Carpentry	77	100.0	23.4	-	71.4	5.2	18.2	-
Printing	36	100.0	44.4	-	47.3	8.3	15.8	-
Electronics	58	100.0	32.8	27.6	39.6	-	-	-
Heating	19	100.0	36.8	5.3	52.6	5.3	12.5	-
Refrigeration and air conditioning	27	100.0	33.3	7.4	51.9	7.4	18.2	-
Auto body	25	100.0	52.0	-	32.0	16.0	23.5	-
Trade electricity	10	100.0	30.0	-	70.0	-	-	-
Industrial and household appliance repair	14	100.0	21.4	-	78.6	-	-	-
Sheet metal	2	100.0	[illegible].0	-	-	-	-	-
Technical programs	313	100.0	29.1	41.3	25.2	3.8	11.7	0.6
Technical electronics	152	100.0	32.2	39.5	26.3	0.7	2.0	1.3
Instrumentation	49	100.0	18.4	65.3	14.3	2.0	10.0	-
Mechanical design and construction	64	100.0	21.9	42.2	23.4	12.5	36.4	-
Architectural drafting	48	100.0	39.6	20.8	35.4	4.2	9.5	-
Computer operations and programming	25	100.0	68.0	-	32.0	-	-	-

1. With few exceptions, these were post-high school courses of study.
2. Includes 5 who were not seeking work.
3. Percent of total.
4. Percent of sum of employed and unemployed.

Table C 2d. PRESENT STATUS, AS OF 1970, OF PERSONS EXITING FROM INDUSTRIAL - TECHNICAL PROGRAMS in 1968

Program	Total		Had jobs	In 1/ school	In armed forces	Unemployed 2/		Other
	Number	Percent	Percent	Percent	Percent	Percent 3/	Rate 4/	Percent
Total	846	100.0	39.7	20.8	35.2	3.7	8.4	0.6
Industrial programs	538	100.0	45.4	6.9	43.7	3.3	6.9	0.7
Auto mechanics	192	100.0	44.3	5.7	45.3	3.1	6.6	1.6
Machine shop	86	100.0	43.0	5.8	47.7	3.5	7.5	-
Carpentry	68	100.0	63.2	5.9	25.0	5.9	8.5	-
Printing	39	100.0	28.2	20.5	43.6	7.7	21.4	-
Electronics	63	100.0	47.6	4.8	47.6	-	-	-
Heating	16	100.0	37.5	12.5	43.7	6.3	14.3	-
Refrigeration and air conditioning	4	100.0	75.0	-	25.0	-	-	-
Auto body	40	100.0	35.0	7.5	57.5	-	-	-
Trade electricity	12	100.0	33.3	8.3	50.1	-	-	8.3
Industrial and household appliance repair	13	100.0	84.6	-	15.4	-	-	-
Sheet metal	5	100.0	-	-	80.0	20.0	100.0	-
Technical programs	288	100.0	31.3	46.2	20.1	2.1	6.3	0.3
Technical electronics	151	100.0	27.2	45.6	25.8	0.7	2.4	0.7
Instrumentation	39	100.0	20.5	74.4	-	5.1	20.0	-
Mechanical design and construction	50	100.0	42.0	36.0	22.0	-	-	-
Architectural drafting	48	100.0	41.6	35.4	16.7	6.3	13.0	-
Computer operations and programming	20	100.0	10.0	30.0	25.0	35.0	77.8	-

1. With few exceptions, these were post-high school courses of study.
2. Includes 9 who were not seeking work. Two-thirds had been in the computer operations and programming program, which explains why the rate is relatively high.
3. Percent of total.
4. Percent of sum of employed and unemployed.

Table C 2e. PRESENT STATUS, AS OF 1970, OF PERSONS EXITING FROM INDUSTRIAL - TECHNICAL PROGRAMS IN 1969

Program	Total		Had jobs	In 1/ school	In armed forces	Unemployed 2/		Other
	Number	Percent	Percent	Percent	Percent	Percent 3/	Rate 4/	Percent
Total	837	100.0	48.4	24.7	21.0	5.9	10.8	-
Industrial programs	547	100.0	55.4	8.6	28.5	7.5	11.9	-
Auto mechanics	169	100.0	56.3	4.7	32.5	6.5	10.4	-
Machine shop	88	100.0	58.0	9.1	22.7	10.2	15.0	-
Carpentry	72	100.0	45.8	2.8	41.7	9.7	17.5	-
Printing	52	100.0	53.8	15.4	15.4	15.4	22.2	-
Electronics	57	100.0	52.6	22.8	19.3	5.3	9.1	-
Heating	32	100.0	56.3	15.6	25.0	3.1	5.3	-
Refrigeration and air conditioning	23	100.0	56.6	4.3	39.1	-	-	-
Auto body	26	100.0	65.4	7.7	26.9	-	-	-
Trade electricity	10	100.0	60.0	32.6	10.0	10.0	25.0	-
Industrial and household appliance repair	11	100.0	45.5	-	54.5	-	-	-
Sheet metal	7	100.0	100.0	-	-	-	-	-
Technical programs	268	100.0	32.8	57.9	7.1	2.2	6.4	-
Technical electronics	135	100.0	34.8	54.1	9.6	1.5	4.3	-
Instrumentation	49	100.0	18.4	75.5	4.1	2.0	10.0	-
Mechanical design and construction	46	100.0	32.6	56.6	4.3	6.5	16.7	-
Architectural drafting	38	100.0	44.7	50.0	5.3	-	-	-
Computer operations and programming	22	100.0	63.7	22.7	4.5	9.1	12.5	-

1. With few exceptions, these were post-high school courses of study.
2. Includes 8 who were not seeking work.
3. Percent of total.
4. Percent of sum of employed and unemployed.

Table C 3. NUMBERS WITH ONE JOB ONLY AND WITH MORE THAN ONE JOB, BY RELATEDNESS OF FIRST AND LAST JOBS

Program	First job			Last job			Only one job			First and last jobs				
	Total	Related	Not related	Total	Related	Not related	Total	Related	Not related	Total	Both related	First related, last not related	Last related, first not related	Both not related
Total, all programs	2,731	1,213	1,518	2,731	1,048	1,683	1,220	511	709	1,511	380	322	157	652
Industrial programs	1,966	903	1,063	1,966	740	1,226	806	333	473	1,160	286	284	121	469
Auto body	91	48	43	91	31	60	35	14	21	56	13	21	4	18
Auto mechanics	650	312	338	650	252	398	236	110	126	414	103	99	39	173
Carpentry	279	78	201	279	66	213	139	34	105	140	19	25	13	83
Trade electricity	44	16	28	44	22	22	19	11	8	25	4	1	7	13
Heating	83	47	36	83	39	44	24	14	10	59	19	14	6	20
Refrigeration and air conditioning	64	28	36	64	23	41	30	12	18	34	8	8	3	15
Electronics	206	99	107	206	97	109	106	55	51	100	22	22	20	36
Printing	143	90	53	143	76	67	55	28	27	88	39	23	9	17
Machine shop	357	166	191	357	115	242	141	48	93	216	48	70	19	79
Sheet metal	13	7	6	13	6	7	4	-	4	9	6	1	-	2
Industrial and household appliance repair	36	12	24	36	13	23	17	7	10	19	5	-	1	13
Computer operations and programming	73	47	26	73	48	25	37	23	14	36	22	2	3	9
Technical programs	692	263	429	692	260	432	377	155	222	315	72	36	33	174
Architectural drafting	166	44	122	166	44	122	71	25	46	95	15	4	4	72
Technical electronics	313	152	161	313	154	159	168	97	71	145	34	21	23	67
Instrumentation	83	7	76	83	10	73	62	7	55	21	-	-	3	18
Mechanical design and construction	130	60	70	130	52	78	76	26	50	54	23	11	3	17

Table C 4. NUMBER IN RELATED AND UNRELATED JOBS BY OCCUPATION GROUP AND PROGRAM

Occupation group	Total, all programs	Auto body repair	Auto mechanics	Carpentry	Trade electricity	Heating	Refrigeration and air conditioning	Electronics	Printing
Total: number	2,202	67	523	210	29	61	48	168	95
percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
In related crafts, number	435	20	152	25	10	25	20	27	42
Percent of total	19.8	29.9	29.1	11.9	34.5	41.1	41.6	16.1	44.1
In unrelated crafts, 1/ number	402	31	121	66	1	10	9	11	5
Percent of total	18.3	46.3	23.1	31.4	3.4	16.4	18.8	6.5	5.3
In related apprenticeship, number	55	-	-	14	1	-	-	2	3
Percent of total	2.5	-	-	6.7	3.4	-	-	1.2	3.2
In unrelated apprenticeship, number	39	1	13	14	-	1	-	-	-
Percent of total	1.8	1.4	2.5	6.7	-	1.6	-	-	-
In related craftsmen helper occupations, number	30	-	24	2	1	-	-	-	-
Percent of total	1.4	-	4.6	1.0	3.4	-	-	-	-
In unrelated craftsmen helper occupations, number	37	-	11	4	2	3	1	-	1
Percent of total	1.7	-	2.1	1.9	6.9	4.9	2.1	-	1.1
In all other related occupations, number	222	-	8	4	-	1	-	47	4
Percent of total	10.1	-	1.5	1.9	-	1.6	-	28.0	4.2
In all other unrelated occupations, 2/ number	982	15	194	81	14	21	18	81	40
Percent of total	44.4	22.4	37.1	38.5	48.4	34.4	37.5	48.2	42.1

continued

See footnote at end of table.

Table C 4 (continued)

Occupation group	Machine shop	Sheet metal	Industrial and household appliance repair	Computer operations and programming	Architectural drafting	Technical electronics	Instrumentation	Mechanical design and construction
Total: number	287	12	28	47	150	306	55	116
percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
In related crafts, number	53	6	7	1	-	41	2	4
Percent of total	18.5	50.0	25.0	2.1	-	13.4	3.6	3.4
In unrelated crafts, 1/ number	53	2	7	1	47	16	5	17
Percent of total	18.5	16.7	25.0	2.1	31.3	5.2	9.1	14.7
In related apprenticeship, number	17	-	-	-	-	12	-	6
Percent of total	5.9	-	-	-	-	3.9	-	5.2
In unrelated apprenticeship, number	4	-	-	-	2	4	-	-
Percent of total	1.4	-	-	-	1.3	1.3	-	-
In related craftsmen helper occupations, number	2	-	-	-	-	1	-	-
Percent of total	0.7	-	-	-	-	0.3	-	-
In unrelated craftsmen helper occupations, number	9	1	2	-	1	-	-	2
Percent of total	3.1	8.3	7.1	-	0.7	-	-	1.7
In all other related occupations, number	8	-	-	27	36	55	4	28
Percent of total	2.8	-	-	57.5	24.0	18.0	7.3	24.1
In all other unrelated occupations, 2/number	141	3	12	18	64	177	44	59
Percent of total	49.1	25.0	42.9	38.3	42.7	57.9	80.0	50.9

1. Principal unrelated crafts: public utility linemen and servicemen, auto and auto body mechanics and repairmen, and machinists and toolmakers.

2. Principal unrelated occupations, other than crafts: motor vehicle drivers and deliverymen, laborers, policemen and firemen, technicians, managers and officials, and shipping and receiving clerks.

Table C 5a. AVERAGE HOURLY EARNINGS, ON FIRST AND CURRENT JOBS, OF PERSONS EXITING FROM INDUSTRIAL-TECHNICAL PROGRAMS IN 1965

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total	492	$ 2.54	$ 4.24	66.9
Industrial programs	338	2.29	4.23	84.7
Auto body	-	-	-	-
Auto mechanics	115	2.52	4.35	72.6
Carpentry	64	2.30	5.02	118.3
Trade electricity	7	2.66	4.48	68.4
Heating	11	2.14	4.26	99.1
Refrigeration and air conditioning	9	1.50	3.83	155.3
Electronics	33	2.19	3.70	68.9
Printing	19	2.27	3.82	68.3
Machine shop	77	2.07	3.76	81.6
Sheet metal	3	2.37	4.00	68.8
Industrial and household appliance repair	-	-	-	-
Computer operations and programming	11	1.88	3.82	103.2
Technical programs	143	3.16	4.31	36.4
Architectural drafting	51	2.84	4.18	47.2
Technical electronics	53	3.31	4.40	32.9
Instrumentation	12	3.81	4.82	26.5
Mechanical design and construction	27	3.20	4.13	29.1

Table C 5b. AVERAGE HOURLY EARNINGS, ON FIRST AND CURRENT JOBS, OF PERSONS EXITING FROM INDUSTRIAL-TECHNICAL PROGRAMS IN 1966

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total	320	$ 2.58	$ 3.89	50.8
Industrial programs	230	2.33	3.82	63.9
Auto body	13	1.69	4.05	139.6
Auto mechanics	81	2.36	3.96	67.8
Carpentry	40	2.72	3.43	26.1
Trade electricity	3	2.82	5.15	82.6
Heating	9	1.84	3.69	100.5
Refrigeration and air conditioning	5	1.98	3.97	100.5
Electronics	23	2.48	3.75	46.5
Printing	11	2.56	3.66	43.0
Machine shop	40	2.10	3.79	80.5
Sheet metal	-	-	-	-
Industrial and household appliance repair	5	2.18	4.24	94.5
Computer operations and programming	2	2.39	5.95	149.0
Technical programs	88	3.22	4.04	25.5
Architectural drafting	19	2.77	4.15	49.8
Technical electronics	40	3.23	4.17	29.1
Instrumentation	13	3.40	3.68	8.2
Mechanical design and construction	16	3.55	3.87	9.0

Table C 5c. AVERAGE HOURLY EARNINGS, ON FIRST AND CURRENT JOBS, OF PERSONS EXITING FROM INDUSTRIAL-TECHNICAL PROGRAMS IN 1967

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total	270	$ 2.33	$ 3.53	51.5
Industrial programs	188	2.28	3.58	57.0
Auto body	13	3.06	4.64	51.6
Auto mechanics	76	2.20	3.64	65.5
Carpentry	14	2.17	2.71	24.9
Trade electricity	2	1.75	3.50	100.0
Heating	7	3.34	3.96	18.6
Refrigeration and air conditioning	9	2.10	3.81	81.4
Electronics	15	2.54	3.19	25.6
Printing	11	2.48	4.83	94.8
Machine shop	36	1.98	3.13	58.1
Sheet metal	2	2.00	4.13	106.5
Industrial and household appliance repair	3	1.91	2.65	38.7
Computer operations and programming	11	1.96	3.03	54.6
Technical programs	71	2.50	3.45	38.0
Architectural drafting	19	2.48	3.52	41.9
Technical electronics	31	2.70	3.42	26.7
Instrumentation	9	2.53	3.39	34.0
Mechanical design and construction	12	2.00	3.42	71.0

Table C 5d. AVERAGE HOURLY EARNINGS, ON FIRST AND CURRENT JOBS, OF PERSONS EXITING FROM INDUSTRIAL-TECHNICAL PROGRAMS IN 1968

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total	263	$ 2.45	$ 3.37	37.6
Industrial programs	194	2.40	3.24	35.0
Auto body	14	2.11	2.93	38.9
Auto mechanics	77	2.35	3.56	51.5
Carpentry	32	2.98	3.77	26.5
Trade electricity	3	2.66	3.54	33.1
Heating	4	1.85	3.17	71.4
Refrigeration and air conditioning	2	3.82	4.25	11.3
Electronics	14	2.35	2.98	26.8
Printing	10	2.39	3.06	28.0
Machine shop	29	2.09	3.05	45.9
Sheet metal	-	-	-	-
Industrial and household appliance repair	9	2.13	3.37	58.2
Computer operations and programming	2	2.35	2.32	- 1.3
Technical programs	67	2.60	3.33	28.1
Architectural drafting	18	2.89	3.47	20.1
Technical electronics	29	2.43	3.26	34.2
Instrumentation	6	2.89	3.03	4.8
Mechanical design and construction	14	2.47	3.41	38.1

Table C 5e. AVERAGE HOURLY EARNINGS, ON FIRST AND CURRENT JOBS, OF PERSONS EXITING FROM INDUSTRIAL-TECHNICAL PROGRAMS IN 1969

Program	Number of workers	Average beginning wage, first job	Average current wage, current job	Percent increase
Total	329	$ 2.47	$ 3.14	27.1
Industrial programs	253	2.45	3.21	31.0
Auto body	15	2.52	3.18	26.2
Auto mechanics	80	2.26	3.25	43.8
Carpentry	24	2.77	3.36	21.3
Trade electricity	5	2.47	3.44	39.3
Heating	11	3.11	3.93	26.4
Refrigeration and air conditioning	11	2.47	3.44	39.3
Electronics	28	2.47	2.96	19.8
Printing	26	2.52	3.29	30.6
Machine shop	43	2.26	2.92	29.2
Sheet metal	7	3.07	3.09	0.7
Industrial and household appliance repair	3	2.45	3.38	38.0
Computer operations and programming	13	2.36	2.58	9.3
Technical programs	63	2.56	2.99	16.8
Architectural drafting	13	2.65	3.20	20.8
Technical electronics	30	2.63	3.07	16.7
Instrumentation	9	2.53	2.80	10.7
Mechanical design and construction	11	2.29	2.69	17.5

Table C 6a. AVERAGE HOURLY EARNINGS ON FIRST AND CURRENT JOBS, CLASSIFIED ACCORDING TO WHETHER RELATED OR UNRELATED TO FIELD OF TRAINING
(PERSONS EXITING IN 1965)

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated		Related	Unrelated
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage		
Total	225	$2.51	267	$2.56	184	$4.47	308	$4.11	+ 78.1	+ 60.5
Industrial programs	155	2.08	183	2.38	112	4.52	226	4.09	+117.3	71.8
Auto body	-	-	-	-	-	-	-	-		-
Auto mechanics	51	2.40	64	2.62	33	4.72	82	4.20	96.7	60.3
Carpentry	20	2.66	44	2.13	20	6.48	44	4.35	143.6	104.2
Trade electricity	1	1.95	6	2.78	2	3.19	5	5.00	63.6	79.9
Heating	10	2.15	1	2.00	4	3.51	7	4.69	71.2	134.5
Refrigeration and air conditioning	9	1.50	-	-	5	3.70	4	4.00	146.7	-
Electronics	20	2.30	13	2.03	25	3.58	8	4.06	55.7	100.0
Printing	6	2.46	13	2.18	4	4.43	15	3.65	80.1	75.5
Machine shop	38	1.75	39	2.39	19	3.93	58	3.70	124.6	54.8
Sheet metal	-	-	3	2.37	-	-	3	4.00	-	68.8
Industrial and household appliance repair	-	-	-	-	-	-	-	-	-	-
Computer operations and programming	8	1.70	3	2.36	9	3.90	2	3.42	129.4	44.9
Technical programs	62	3.41	81	2.97	63	4.46	80	4.19	30.8	41.1
Architectural drafting	24	3.41	27	2.33	24	4.34	27	4.04	27.3	73.4
Technical electronics	24	3.40	29	3.24	21	4.60	32	4.27	35.3	31.8
Instrumentation	-	-	12	3.81	1	5.50	11	4.76	-	24.9
Mechanical design and construction	14	3.44	13	2.95	17	4.38	10	3.70	27.3	25.4

Table C 6b. AVERAGE HOURLY EARNINGS ON FIRST AND CURRENT JOBS, CLASSIFIED ACCORDING TO WHETHER RELATED OR UNRELATED TO FIELD OF TRAINING
(PERSONS EXITING IN 1966)

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated		Related	Unrelated
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage		
Total	137	$2.38	183	$2.73	106	$3.87	214	$3.91	62.6	43.2
Industrial programs	109	2.15	121	2.58	73	3.63	157	3.91	68.8	51.6
Auto body	11	1.65	2	1.86	2	4.00	11	4.05	142.4	117.7
Auto mechanics	33	2.05	48	2.57	26	3.38	55	4.24	64.9	65.0
Carpentry	21	2.92	19	2.51	8	3.50	32	3.42	19.9	36.3
Trade electricity	1	4.00	2	2.22	2	5.72	1	4.00	43.0	80.2
Heating	6	1.82	3	1.88	4	4.00	5	3.44	119.8	83.0
Refrigeration and air conditioning	3	2.13	2	1.75	3	4.25	2	3.55	99.5	102.9
Electronics	13	2.23	10	2.80	9	3.64	14	3.83	63.2	36.8
Printing	4	1.45	7	3.18	4	3.56	7	3.71	119.3	16.7
Machine shop	17	1.85	23	2.29	15	3.61	25	3.89	95.1	69.9
Sheet metal	-	-	-	-	-	-	-	-	-	-
Industrial and household appliance repair	-	-	5	2.18	-	-	5	4.24	-	94.5
Computer operations and programming	2	2.39	-	-	2	5.95	-	-	149.0	-
Technical programs	26	3.32	62	3.17	31	4.28	57	3.91	28.9	23.3
Architectural drafting	4	2.25	15	2.91	5	4.30	14	4.10	91.1	40.9
Technical electronics	12	3.67	28	3.05	19	4.27	21	4.09	16.3	34.1
Instrumentation	-	-	13	3.40	-	-	13	3.68	-	8.2
Mechanical design and construction	10	3.33	6	3.92	7	4.32	9	3.52	17.7	- 10.2

Table C 6c. AVERAGE HOURLY EARNINGS ON FIRST AND CURRENT JOBS, CLASSIFIED ACCORDING TO WHETHER RELATED OR UNRELATED TO FIELD OF TRAINING
(PERSONS EXITING IN 1967)

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated		Related	Unrelated
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage		
Total	126	$2.21	144	$2.43	98	$3.47	172	$3.56	57.0	46.5
Industrial programs	90	2.18	98	2.38	67	3.61	121	3.57	65.6	50.0
Auto body	3	1.50	10	3.53	3	3.50	10	4.99	133.3	41.4
Auto mechanics	39	2.21	37	2.18	28	3.50	48	3.73	58.4	71.1
Carpentry	4	3.03	10	1.82	1	3.05	13	2.68	0.7	47.3
Trade electricity	1	1.50	1	2.00	2	3.50	-	-	133.3	-
Heating	1	1.25	6	3.68	2	3.42	5	4.17	173.6	13.3
Refrigeration and air conditioning	6	2.13	3	2.05	3	3.96	6	3.73	85.9	82.0
Electronics	8	2.80	7	2.23	5	3.26	10	3.14	16.4	40.8
Printing	7	2.22	4	2.94	7	5.27	4	4.06	137.4	38.1
Machine shop	21	1.89	15	2.10	16	3.22	20	3.06	70.4	45.7
Sheet metal	-	-	2	2.00	-	-	2	4.13	-	106.5
Industrial and household appliance repair	-	-	3	1.91	-	-	3	2.65	-	38.7
Computer operations and programming	8	1.63	3	2.83	9	3.14	2	2.56	92.6	- 9.5
Technical programs	28	2.49	43	2.51	22	3.17	49	3.57	27.3	42.2
Architectural drafting	4	2.38	15	2.55	3	3.33	16	3.56	39.9	39.6
Technical electronics	12	3.06	19	2.48	11	3.23	20	3.53	5.6	42.3
Instrumentation	-	-	9	2.53	2	2.40	7	3.67	-	45.1
Mechanical design and construction	12	2.00	-	-	6	3.23	6	3.61	61.5	-

Table C 6d AVERAGE HOURLY EARNINGS ON FIRST AND CURRENT JOBS, CLASSIFIED ACCORDING TO WHETHER RELATED OR UNRELATED TO FIELD OF TRAINING
(PERSONS EXITING IN 1968)

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated		Related	Unrelated
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage		
Total	103	$2.39	160	$2.49	103	$3.38	160	$3.36	41.4	34.9
Industrial programs	78	2.36	116	2.42	78	3.44	116	3.37	45.8	39.3
Auto body	7	2.00	7	2.21	5	2.70	9	3.06	35.0	38.5
Auto mechanics	35	2.30	42	2.33	36	3.38	41	3.72	47.0	59.7
Carpentry	8	3.42	24	2.83	8	5.26	24	3.27	53.8	15.5
Trade electricity	2	2.50	1	3.00	2	3.81	1	3.00	52.4	0
Heating	1	1.88	3	1.84	1	3.00	3	3.22	59.6	75.0
Refrigeration and air conditioning	-	-	2	3.82	-	-	2	4.25	-	11.3
Electronics	4	2.27	10	2.38	6	3.02	8	2.96	33.0	24.4
Printing	7	2.50	3	2.13	7	3.18	3	2.78	27.2	30.5
Machine shop	9	1.74	20	2.25	7	2.66	22	3.18	52.9	41.3
Sheet metal	-	-	-	-	-	-	-	-	-	-
Industrial and household appliance repair	5	2.17	4	2.08	6	3.52	3	3.07	62.2	47.6
Computer operations and programming	1	1.63	1	3.06	1	2.63	1	2.00	61.3	- 34.6
Technical programs	24	2.50	43	2.66	24	3.22	43	3.39	28.8	27.4
Architectural drafting	4	2.27	14	3.07	4	2.39	14	3.78	5.3	23.1
Technical electronics	19	2.58	10	2.13	19	3.40	10	2.97	31.8	39.4
Instrumentation	-	-	6	2.89	-	-	6	3.03	-	4.8
Mechanical design and construction	1	1.90	13	2.51	1	3.00	13	3.44	57.9	37.1

Table C 6e. AVERAGE HOURLY EARNINGS ON FIRST AND CURRENT JOBS, CLASSIFIED ACCORDING TO WHETHER RELATED OR UNRELATED TO FIELD OF TRAINING
(PERSONS EXITING IN 1969)

Program	First job, average beginning wage				Current job, average current wage				Percent change in average wage	
	Related		Unrelated		Related		Unrelated			
	Workers	Wage	Workers	Wage	Workers	Wage	Workers	Wage	Related	Unrelated
Total	142	$2.48	187	$2.46	133	$3.26	196	$3.06	31.5	24.4
Industrial programs	117	2.45	136	2.45	106	3.32	147	3.13	35.5	27.8
Auto body	8	2.37	7	2.70	8	3.31	7	3.04	39.7	12.6
Auto mechanics	40	2.20	40	2.32	31	3.64	49	3.00	65.5	29.3
Carpentry	3	2.10	21	2.87	2	4.50	22	3.25	114.3	13.2
Trade electricity	-	-	5	2.47	2	3.10	3	3.66	-	48.2
Heating	8	3.39	3	2.38	5	5.48	6	2.64	61.7	10.9
Refrigeration and air conditioning	6	2.29	5	2.68	6	3.17	5	3.76	38.4	40.3
Electronics	15	2.50	13	2.44	16	3.02	12	2.89	20.8	18.4
Printing	17	2.57	9	2.41	16	3.25	10	3.35	26.5	39.0
Machine shop	12	2.33	31	2.24	13	2.65	30	3.04	13.7	35.7
Sheet metal	7	3.07	-	-	6	2.25	1	8.18	26.7	-
Industrial and household appliance repair	1	1.60	2	2.88	1	3.25	2	3.44	103.1	19.4
Computer operations and programming	6	2.30	7	2.41	7	2.60	6	2.56	13.0	6.2
Technical programs	19	2.74	44	2.49	20	3.22	43	2.89	17.5	16.1
Architectural drafting	-	-	13	2.65	-	-	13	3.20	-	20.8
Technical electronics	15	2.88	15	2.39	18	3.30	12	2.73	14.6	14.2
Instrumentation	-	-	9	2.53	-	-	9	2.80	-	10.7
Mechanical design and construction	4	2.20	7	2.34	2	2.50	9	2.73	13.6	12.3

Table C 7. AVERAGE HOURLY EARNINGS ON JOBS, 1970

TOTAL, ALL PROGRAMS

Post-high school education and experience	Total		Related programs		Unrelated programs	
	Number	rate	Number	rate	Number	rate
All programs, total	1,792	$3.71	669	$3.77	1,123	$3.68
None	815	3.53	295	3.56	520	3.52
Some	977	3.86	374	3.95	603	3.81
Post-high school education	837	3.78	304	3.84	533	3.75
Without post-high school education	955	3.66	365	3.72	590	3.62
Apprenticeship	179	4.34	104	4.45	75	4.18
Without apprenticeship	1,613	3.64	565	3.65	1,048	3.64
Military service training	152	3.71	52	3.84	100	3.65
Without military service training	1,640	3.71	617	3.77	1,023	3.68
Industrial programs	1,312	3.71	478	3.75	834	3.68
None	708	3.56	248	3.63	460	3.52
Some	604	3.88	230	3.88	374	3.88
Post-high school education	475	3.74	169	3.67	306	3.77
Without post-high school education	837	3.69	309	3.80	528	3.63
Apprenticeship	151	4.53	81	4.71	70	4.32
Without apprenticeship	1,161	3.60	397	3.56	764	3.63
Military service training	122	3.70	45	4.00	77	3.53
Without military service training	1,190	3.71	433	3.73	757	3.70
Computer operations and programming	39	$3.22	28	$3.43	11	$2.67
None	27	2.97	22	3.05	5	2.65
Some	12	3.77	6	4.85	6	2.68
Post-high school education	12	3.77	6	4.85	6	2.68
Without post-high school education	27	2.97	22	3.05	5	2.65
Apprenticeship	-	-	-	-	-	-
Without apprenticeship	39	3.22	28	3.43	11	2.67
Military service training	-	-	-	-	-	-
Without military service training	39	3.22	28	3.43	11	2.67
Technical programs	441	$3.77	163	$3.90	278	$3.70
None	80	3.48	25	3.27	55	3.58
Some	361	3.83	138	4.01	223	3.72
Post-high school education	350	3.84	129	4.01	221	3.74
Without post-high school education	91	3.52	34	3.47	57	3.54
Apprenticeship	28	3.31	23	3.56	5	2.16
Without apprenticeship	413	3.80	140	3.95	273	3.72
Military service training	30	3.76	7	2.77	23	4.06
Without military service training	411	3.77	156	3.95	255	3.66

Table C 8. AVERAGE HOURLY EARNINGS IN RELATED AND UNRELATED OCCUPATIONS BY SELECTED PROGRAM

SUMMER, 1970

Occupation	Program							
	Auto mechanics		Carpentry		Printing		Machine shop	
	Number	Earnings	Number	Earnings	Number	Earnings	Number	Earnings
Related occupations, total	195	$3.64	51	$4.86	68	$3.41	96	$3.22
Professional, technical, managerial	1	3.27	-	-	8	4.06	8	3.25
Clerical workers	-	-	-	-	7	2.68	-	-
Sales workers	1	3.08	-	-	-	-	-	-
Craftsmen	162	3.80	26	5.81	44	3.49	59	3.42
Auto mechanic	154	3.77	-	-	-	-	-	-
Carpenter	-	-	25	5.91	-	-	-	-
Printing tradesman	-	-	-	-	37	3.24	-	-
Machinist	-	-	-	-	-	-	46	3.46
Toolmaker	-	-	-	-	-	-	5	3.27
Foreman and other craftsmen	8	4.49	1	3.25	7	4.86	8	3.27
Operatives	31	2.80	11	2.35	4	2.25	8	2.39
Auto mechanic helper	27	2.69	-	-	-	-	-	-
Other operatives	4	3.50	11	2.35	4	2.25	8	2.39
Apprentices	-	-	14	5.08	5	3.52	21	2.95
Service workers	-	-	-	-	-	-	-	-
Unrelated occupations, total	336	3.76	161	3.49	48	3.25	191	3.35
Professional, technical, managerial	26	4.46	4	2.94	1	2.75	18	3.10
Clerical and sales workers	54	3.20	24	3.07	9	3.65	40	3.25
Craftsmen	119	4.35	64	3.97	5	3.28	50	3.82
Construction trades	32	5.09	15	3.73	1	3.63	1	4.50
Utility lineman and serviceman	18	3.28	6	3.16	-	-	19	3.56
Mechanics and repairmen	6	4.00	22	4.39	3	3.46	22	3.62
Foreman and other craftsmen	63	4.32	21	3.93	1	2.38	8	4.94
Operatives	61	3.17	21	2.93	16	3.03	50	3.11
Drivers: bus, truck, tractor	21	3.24	13	3.03	2	4.00	15	3.37
Deliveryman, routeman, cab driver	12	3.34	-	-	1	3.94	11	3.32
Other operatives	28	3.04	8	2.77	13	2.82	24	2.86
Service workers	29	3.24	16	2.96	9	4.19	14	4.01
Policeman	13	3.63	-	-	9	4.19	10	4.43
Fireman	5	3.29	-	-	-	-	-	-
Other service workers	11	2.75	16	2.96	-	-	4	2.95
Laborers	32	3.63	18	3.20	8	2.19	15	2.46
Apprentices	15	3.52	14	4.02	-	-	4	3.63

NASSAU BOARD OF COOPERATIVE EDUCATIONAL SERVICES

125 Jericho Turnpike, Jericho, New York 11753

CONFIDENTIAL

(Correct address if different)

Your telephone number _____

Your age at last birthday _____

1. YOUR HIGH SCHOOL EDUCATION

A. Name of vocational center attended _____

1. Vocational program or courses taken _____

2. Years in program _____

3. Did you complete the program? Yes ☐ No ☐

B. Name of home school _____

1. Did you graduate? Yes ☐ No ☐

2. Last year of attendance _____

C. Please give your frank opinion about the following items concerning your high school education. (Check one answer for each item.)

	Poor	*Satisfactory*	*Excellent*
1. Quality of instruction in:			
a. Shop subjects	☐	☐	☐
b. Other subjects	☐	☐	☐
2. Shop equipment	☐	☐	☐
3. Counseling	☐	☐	☐
4. Help of school in finding a job	☐	☐	☐

2. WHAT ARE YOU DOING NOW? (Check all that apply.)

A. Employed:
- (1) Full-time ☐
- (2) Part-time (less than 30 hours a week) ☐
- (3) In own business ☐
- (4) In military service ☐
- (5) In a registered apprenticeship program ☐

B. Not employed:
- (1) Seeking work ☐
- (2) Not seeking work ☐
- (3) On temporary layoff ☐
- (4) Attending school ☐

C. Other (specify) _____

D. If you are attending school is it:	*Full-time*	*Part-time*
1. A private trade school or institute	☐	☐
2. A 2-year college	☐	☐
3. A 4-year college	☐	☐
4. Other (specify) _____		

3. JOB HISTORY SINCE LEAVING HIGH SCHOOL

(If you haven't had a job since leaving high school, check ☐ and skip to Question 6.) Start with your first full-time (30 hours a week or more) job after leaving high school. List all full-time jobs in the order that you held them. Include your present job, even if it is part-time, and time spent in the armed services. Show any promotions (such as from mechanic's helper to mechanic B) on a separate line. If more space is needed, attach separate sheet.

	1.	2.	3.	4.	5.
EXAMPLE	Starting Date Mo. 9 Yr. 66 Leaving Date Mo. 12 Yr. 67	What type of work did you do? Auto Mechanic's Helper	Earnings at start Give $ per hour, week, or month 68 per wk. for 40 hrs. a wk.	Earnings at end 75 per wk. for 40 hrs. a wk.	Compared with the trade for which you were prepared in high school, was this job: In same trade? ☐ Highly related? ☑ Slightly related? ☐ Unrelated? ☐
1st JOB	Starting Date Mo.____ Yr.____ Leaving Date Mo.____ Yr.____	What type of work did you do?____	Earnings at start Give $ per hour, week, or month ____ per ____ for ____ hrs. a wk.	Earnings at end ____ per ____ for ____ hrs. a wk.	Compared with the trade for which you were prepared in high school, was this job: In same trade? ☐ Highly related? ☐ Slightly related? ☐ Unrelated? ☐
2nd JOB	Starting Date Mo.____ Yr.____ Leaving Date Mo.____ Yr.____	What type of work did you do?____	Earnings at start Give $ per hour, week, or month ____ per ____ for ____ hrs. a wk.	Earnings at end ____ per ____ for ____ hrs. a wk.	Compared with the trade for which you were prepared in high school, was this job: In same trade? ☐ Highly related? ☐ Slightly related? ☐ Unrelated? ☐
3rd JOB	Starting Date Mo.____ Yr.____ Leaving Date Mo.____ Yr.____	What type of work did you do?____	Earnings at start Give $ per hour, week, or month ____ per ____ for ____ hrs. a wk.	Earnings at end ____ per ____ for ____ hrs. a wk.	Compared with the trade for which you were prepared in high school, was this job: In same trade? ☐ Highly related? ☐ Slightly related? ☐ Unrelated? ☐
4th JOB	Starting Date Mo.____ Yr.____ Leaving Date Mo.____ Yr.____	What type of work did you do?____	Earnings at start Give $ per hour, week, or month ____ per ____ for ____ hrs. a wk.	Earnings at end ____ per ____ for ____ hrs. a wk.	Compared with the trade for which you were prepared in high school, was this job: In same trade? ☐ Highly related? ☐ Slightly related? ☐ Unrelated? ☐

B. If your first full-time job or your present job is *unrelated* or only *slightly related* to your high school training, why did you change fields?

1. Learned new trade by continuing education after high school. ☐
2. Learned new trade in the armed services. ☐
3. Needed more than a high school education to get a job in the trade. ☐
4. Was not accepted as an apprentice in the trade. ☐
5. Wages offered were too low. ☐
6. No jobs were available in my field of training. ☐
7. Didn't like the kind of work. ☐
8. Other reasons (specify) _____

4. YOUR FIRST FULL-TIME JOB AFTER HIGH SCHOOL

A. Please list the kinds of work you did. *Be as specific as possible.* (For example, if you were a machine operator, tell us the kind of machine(s) you operated; whether you manually fed the machine(s), determined the feed and speed rates, worked from blueprints or job sheets, set up the machine(s), etc.)

B. Please go back to A and put a check (√) in front of the kinds of work requiring the most skill.

5. YOUR PRESENT JOB (If unemployed, answer for your last job.)

A. Please list the things you *actually do* on your present job, not the things you are capable of doing. *Be as specific as possible.*

B. Please go back to A and put a check (√) in front of the kinds of work requiring the most skill.

C. Title of person who directly supervises or checks your work _____

D. Please describe the kind of supervision you receive. _____

E. Which course or what kind of training or work experience do you feel was most helpful in preparing you for the work you are doing at present? _____

6. APPRENTICESHIP TRAINING

(If you have never been in an apprenticeship program, check ☐ and skip to Question 7.)

A. What was the name of:

1. Your sponsoring employer_____

2. The joint apprenticeship committee (if any)_____

3. The union involved (if any)_____

B. In what trade were you an apprentice? _____

C. How long were you in the program? From _____ (mo. and yr.) to _____ (mo. and yr.)

D. Did you complete the program? Yes ☐ No ☐

E. Was the length of the program reduced for you because of your vocational training in high school or for any other reason? Yes ☐ No ☐

If yes, by how much and why? _____

7. EDUCATION SINCE LEAVING HIGH SCHOOL

A. Have you taken any courses (other than in an apprenticeship program)? Yes ☐ No ☐
If no, skip to Question 8.
If yes, what kind of courses in what kind of school(s)?

Kind of school	Kind of courses or field of study	Number of weeks
☐ Public high school		
☐ Private trade school or institute		
☐ 2-year college		
☐ 4-year college		
☐ Union school		
☐ Classroom in plant		
☐ Correspondence school		
☐ Armed service school		
☐ Other (specify below)		

8. COMMENTS: In the space below we would like any further ideas you have on vocational training in high school based upon your own experience. What values do you see in this training and what changes, if any, do you think should be made in the existing program?

_____

_____

_____

_____