A STUDY TO EVALUATE THE MANPOWER DEVELOPMENT TRAINING PROGRAMS IN RICHMOND COUNTY, NORTH CAROLINA, 1967 THROUGH 1973

by

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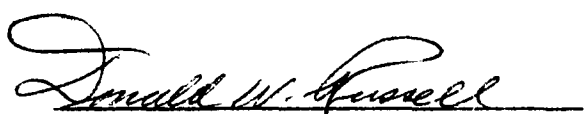

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This study has as its purpose the evaluation of Manpower Development Training programs at the local level. The study is built around four points to determine whether or not: (1) there were significant increases in the graduates' incomes after training; (2) there were significant reductions in unemployment in the tri-county area during the period covered by the study; (3) there were significant reductions in the number of welfare payments in the tri-county area during the period covered by the study; and (4) there was a significant difference in the expected length of the pay-back period of one year or less.

Data were collected from several sources for the purpose of testing the null hypotheses. Data were collected from graduates of Manpower Training programs at Richmond Technical Institute, from the student records, from the Manpower Administration of the United States Department of Labor, from the North Carolina Employment Security Commission offices in Raleigh and Rockingham, and from the Director of the Richmond County Department of Social Services, from audit reports of individual Manpower Training programs, and from printed sources.

The data were treated statistically to determine whether or not significant differences had occurred. For the first three hypotheses, "t" scores were computed; the chi-square test of differences was used to determine the presence of significant differences for the fourth hypothesis. Results of the computations were presented in narrative and in tabular form.

Highly significant differences in the incomes of graduates occurred in four of the seven years covered by the study and the difference was

significant at the .05 level one year. There were no significant differences in two of the seven years.

There were highly significant changes in the rate of unemployment in the tri-county area in three years, but one was a highly significant increase in unemployment. A decrease in unemployment, significant at the .05 level, occurred one year. There were no significant changes the other years.

There was no significant change in the number of welfare cases in any year.

It was determined that the length of the pay-back period in this study was over three years as a minimum, with the length of the pay-back period possibly being as long as seven years in one instance.

The primary purpose of this study was to determine whether or not graduates of Manpower Development Training programs had significant increases in their incomes. Since there were increases in the graduates' incomes in each year, with significant increases in five of the years, the writer contends that the programs were successful each year. The absence of any statistically significant difference is overridden by the increased probability of employment at higher wages for all the graduates.

The chi-square test of differences in responses to statements asked selected graduates tended to show that there were minor differences in the responses by year. Greater differences occurred across years, as when responses of graduates of a given program were compared to the other selected graduates. The greatest number of differences occurred when the responses of all the selected graduates were tested to determine the difference between responses given and expected responses.

The differences between responses given by employers of the 153 graduates were significantly different with few exceptions, both when all responses of all employers were tested to determine levels of significance between given and expected responses and for textile employer responses tested the same way.

An item by item analysis of employers' responses revealed that the graduates were generally considered to be better employees than nongraduates in similar jobs. However, the item analysis revealed that the graduates' prospects for promotions or for being upgraded in their present jobs were bleak. Job security was not greatly enhanced by benefit of the training, either.

A review of responses of Employment Security Commission and Manpower Training personnel to statements in Appendix E revealed highly significant differences in the responses to most of the statements. It was concluded that satisfying the requirements of the Manpower Development and Training Act, as amended, in trainee selection, may account for many of the differences in responses.

ACKNOWLEDGEMENTS

Many persons, too numerous to identify by their individual names, have assisted me at various points in the development of this study. It is appropriate that I acknowledge the contributions of certain individuals because they have been instrumental in seeing the study completed.

I acknowledge the contributions of the members of the Committee: Dr. Donald W. Russell, Chairman; Dr. Arthur L. Svenson, whose many helpful suggestions improved the form and style of the dissertation; and Dr. Ernest W. Lee and Dr. Harold J. Mahoney, who served on the Committee.

I acknowledge the valuable assistance given by the proofreader, Mrs. Clara Strickland. I acknowledge the contributions Mrs. Mildred Terry and Mrs. Jean Snider in the typing of the dissertation.

Finally, I acknowledge the strength and support given by my wife, Ann; without her encouragement and sacrifices, the study would never have been completed.

Robert D. Street

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CHAPTER I

NATURE AND PURPOSE OF THE STUDY

BACKGROUND

Public Law 87-415[1] established the Manpower Development and Training Act of 1962. This Act was passed by Congress to relieve the shortages of qualified laborers in many skill categories. It was the determination of Congress that many workers could not qualify for available jobs, even in times when the unemployment rate was high and that certain jobs had ceased to exist because of numerous causes, including, "...technological developments, foreign competition, relocation of industry, shifts in market demand, and other changes in the structure of the economy."[2] Besides training and retraining workers for jobs, the Act sought to "...reduce the costs of unemployment compensation and public assistance."[3]

Amendments to the Act in 1963, 1965, 1966,[4] and 1968 opened the training more to young people and the direction of the programs was

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[1]United States Congress. "Manpower Development and Training Act of 1962," United States Statutes at Large, Public Law 87-415, 87th Congress, 2nd Session, Vol. 76 (Washington, D. C., United States Government Printing Office, 1963).

[2]Ibid.

[3]Ibid.

[4]Venn, Grant. Man, Education, and Manpower, (Washington, D. C., American Association of School Administrators, 1970), p. 157.

changed to include more disadvantaged persons.[5] "The Manpower Administration of the Department of Labor, for manpower program purposes, defined a disadvantaged individual as a person having two or more of the following characteristics: nonwhite, less than twelve grades of education, unemployed at least fifteen weeks, under twenty-two or over forty-five years of age, handicapped, or a public assistance recipient."[6]

The purpose of the training authorized by the Manpower Development and Training Act of 1962 was to give people skills they needed to work in our modern society. This involved not only retraining displaced workers, but providing training to those who have had no prior work experience.

PURPOSE OF THE STUDY

This study has as its purpose a fourfold goal with respect to Richmond County, North Carolina, covering the period from 1967 through October 31, 1973. The goals are concerned with the Manpower Development Training programs taught at Richmond Technical Institute, Hamlet, North Carolina, during the period of the study. The goals will be measured by the null hypotheses which follow:

1. There was no significant difference in the last incomes of graduates of Manpower Training programs before training and their first incomes following the completion of training.

2. There was no significant reduction in unemployment during the period of the Manpower Development Training in the tri-county area.

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[5]Ibid., p. 159.

[6]Ibid., p. 158.

3. There was no significant reduction in the number of welfare payments during the period of the Manpower Development Training in the tri-county area.

4. There was no significant variation of the cost-recovery period from the usual expectation of one year or less.[7]

IMPORTANCE OF THE STUDY

A review of the literature revealed no comparable study of the Manpower Development Training programs in North Carolina as proposed in this study. Manpower program evaluations which have been done in the past have typically been done for manpower programs in an entire state over a period of several years or of manpower programs in several states over at least a two-year period.

A study of the effectiveness of Manpower Development Training programs is needed on the local county level to determine the effective programs at the grass-roots level and the extent to which the stated objectives of the Manpower Development and Training Act of 1962 are being met. Such a study may possibly reveal weaknesses in programs which are covered up or passed unnoticed by mass studies.

Hopefully, this research will give impetus to the evaluation of Manpower Development Training programs wherever they are offered in North Carolina. Improvements in techniques of program and graduate-experience analysis could result in more efficient and effective use of the training opportunities made possible by the Manpower Development and Training Act of 1962 and its amendments.

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[7]Ibid., p. 160.

METHOD OF PROCEDURE

In undertaking this study, a survey of the literature falling within the field of this research was made to identify areas of common concern to researchers and authors. The literature was reviewed in four broad categories: periodicals, books, Education Resources Information Center (ERIC) documents, and doctoral dissertations written since 1967.

This writer, after careful research, determined that the literature could be divided into three subject areas: (1) increases in earnings; (2) cost-recovery period; and (3) means of evaluating Manpower Development Training programs. The first two topics, in addition to the determination as to whether or not there were significant reductions in unemployment and in public assistance payments in Richmond County during the period covered by the study, form the major components, i.e., chapters, of the study.

After the overall research design and structural framework were developed, more extensive and intensive study and readings were undertaken. A careful study of the literature was made in which salient points on various components of this study were assembled. Opposing viewpoints were recorded for the purpose of showing lack of consensus of opinion as these related to specific aspects of Manpower Development Training.

In addition to reviewing the literature, the writer met with representatives of the Richmond County office and Raleigh office of the North Carolina Employment Security Commission to discuss their roles in administering Manpower Development Training programs. The role of the Richmond County Office of the Employment Security Commission in the

planning and operation of each training program was thoroughly reviewed and analyzed.

The writer also visited the Office of Manpower Administration, United States Department of Labor, in Washington, D. C., where he received valuable aid in reviewing the composite personnel and program data stored there. Visits to the state and federal offices helped this researcher understand more clearly the functions prescribed by the Manpower Development and Training Act of 1962 and its subsequent amendments.

SCOPE AND LIMITATIONS

This study is confined to study of graduates of the Manpower Development and Training programs at Richmond Technical Institute, Hamlet, North Carolina, from the first program in the county in 1967 through 1973.

Graduates,[8] as defined in this study, are those enrollees who either completed the program training and graduated or who mastered the skills to be taught and left early to take up training-related employment. Not included are those enrollees who left training early to take up training-related employment, if the instructor indicated on the student's record the necessary skills were not learned. The first two types of enrollees are said to have 'Achieved Training Objective' while the third category did not achieve the training objective.

Furthermore, this study is limited to graduates of the Manpower Development Training programs sponsored through the Richmond Technical

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[8] In a letter dated November 28, 1974, from the Director of the Manpower Development Training programs at Richmond Technical Institute, Hamlet, North Carolina. Permission to quote secured.

Institute. These graduates actually reside in the tri-county area: Richmond, Anson, and Scotland Counties, North Carolina. Thus, while the fourfold goal of this dissertation noted on pages two and three speaks about Richmond County, North Carolina, the scattering of enrollees actually exceeds the boundaries of Richmond County. This tri-county area has been considered to be of manageable size for personal contact to collect data relevant to the research purposes of this dissertation.

The total potential population of the study consisted of 705 enrollees in Manpower Development Training programs during the period of the study. Of that number, 378 achieved the training objectives of the programs. However, since this study was restricted only to those graduates who actually reside in the tri-county area, only 331, or 87.6 percent of the total number of graduates were eligible to be included in the study.

ORGANIZATION OF THE DISSERTATION

This study is organized into six chapters. These are as follows:

Chapter I, Nature and Purpose of the Study: background and introduction to the subject of the study.

Chapter II, Review of the Literature: research and writings in the field relative to the major topics of the study.

Chapter III, Design and Procedure: a review of the manner in which data were gathered for the study. The instruments used are presented and their purposes analyzed.

Chapter IV, Analysis of Data: Income; Employment; Costs: a presentation of the data and analysis of their significance. Earnings

before and after training are compared; reductions in public assistance payments and unemployment compensation reductions are reviewed; cost-recovery computations and related data are presented.

Chapter V, Analysis of Data: Graduates; Employers; Programs: analysis of graduate, employer, and Employment Security Commission and Manpower Training personnel responses to statements in Appendix E.

Chapter VI, Manpower Training Programs of Richmond County, North Carolina: Overview and Conclusions: a summary of major findings and conclusions of the study and recommendations based on the reaction of the researcher to the substance of the study.

CHAPTER II

A REVIEW OF THE LITERATURE

This Chapter is concerned with research relative to Manpower Development Training programs which was done from 1967 through 1972. Only those studies which are related to this study in the nature of its undertaking are included in the review of the literature which covered the years 1967 through 1973.

THE LITERATURE ON CONTROL GROUPS

There are at least two schools of thought about the use of control groups in research of Manpower Development Training Programs. The review of recent doctoral dissertations revealed that most of the studies were conducted without the use of control groups. Those researchers who chose not to use separate control groups compared the success of the trainees to their personal characteristics. Control groups were used in some instances to compare the post-training earnings of graduates and dropouts of programs.

Among those who did not use a control group were Langdon,[1] Flores,[2] Goldfarb,[3] Rawlins,[4] Liddell,[5] Boyer,[6] Mestrovich,[7] O'Boyle,[8]

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[1]Langdon, C. W. "Manpower Development in Alabama." (Ann Arbor: University Microfilms, 1967.) (Microfilm.)

[2]Flores, Froilan. "An Historical and Cost Analysis of Manpower Development Training Act Programs in the Washoe County (Reno) School District." (Ann Arbor: University Microfilms, 1968.) (Microfilm.)

[3]Goldfarb, R. S. "The Evaluation of Government Programs: The

and Smith.[9] Those who used control groups were Trooboff[10] and Rapuano.[11]

THE LITERATURE ON PROGRAM DESCRIPTIONS

Langdon, besides not using a control group, did not involve himself with the pre-training earnings of enrollees. His study was limited to a review of the law, previous studies, hourly wage rate distributions after training, and a cursory analysis of certain demographic characteristics of trainees.

Case of New Haven's Manpower Training Activities." (Ann Arbor: University Microfilms, 1968.) (Microfilm.)

[4]Rawlins, V. L. "Government Sponsored Training Programs for the Disadvantaged Youth as a Part of Efficient Long-Run Manpower Policy." (Ann Arbor: University Microfilms, 1969.) (Microfilm.)

[5]Liddell, W. J. H., Jr. "The Manpower Development and Training Act in California: Costs, Returns, and the Prediction of Individual Success." (Ann Arbor: University Microfilms, 1969.) (Microfilm.)

[6]Boyer, J. W., Jr. "Evaluation of the Effectiveness of Selected Manpower Training Programs." (Ann Arbor: University Microfilms, 1970.) (Microfilm.)

[7]Mestrovich, M. J. "The Economic Impact of MDTA: A Case Study of an Urban Economy." (Ann Arbor: University Microfilms, 1970.) (Microfilm.)

[8]O'Boyle, E. J. "Proposed Criteria of Achievement for Institutional Training Under the Manpower Development and Training Act." (Ann Arbor: University Microfilms, 1972.) (Microfilm.)

[9]Smith, R. E. "An Analysis of the Efficiency and Equity of Manpower Programs." (Ann Arbor: University Microfilms, 1971.) (Microfilm.)

[10]Trooboff, B. M. "Employment Experience After MDTA Training: A Study of the Relationships Between Selected Trainee Characteristics and Post-Training Employment Experience." (Ann Arbor: University Microfilms, 1968.) (Microfilm.)

[11]Rapuano, F. "A Comparative Cost-Benefit Analysis of MDTA Training in the Boston Area." (Ann Arbor: University Microfilms, 1970.) (Microfilm.)

The population with which Langdon worked was 6,149 enrollees during fiscal year 1964 in Alabama. He compared "...age, sex, race, family status, number of dependents, years of gainful employment, prior employment status, whether handicapped and whether receiving public assistance."[12] His population had an educational background as follows: 39.4 percent below grade twelve; 52.8 percent had a twelfth grade education; and 7.8 percent over a twelfth grade education.[13]

Of the 6,149 Alabama enrollees, only 133, or 1.9 percent, were receiving public assistance. Langdon stated:

> Many people who do not understand "welfare" think that manpower training would be a fine device to get people off public assistance. Unfortunately, it has not worked this way with MDTA, probably because welfare recipients are not in a position to take training. One of the reasons for this may be the lack of education.[14]

The completion rate of 48.9 percent in Langdon's population compared favorably to a national completion rate of 43.2 percent.[15] Of 2,442 completers surveyed to determine their working status, the results were as follows, with the Alabama figures given first and the national figures given second for comparison: working at training-related jobs, 42 and 44 percent; working at non-training-related jobs, 9.4 and 12.6 percent; unemployed, 22.8 and 14.1 percent; other (included those not located, not in labor force, and not reporting), 26 and 29.4 percent.[16]

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[12]Langdon, op. cit., p. 222.

[13]Ibid., p. 237.

[14]Ibid., p. 253.

[15]Ibid., p. 254.

[16]Ibid., p. 257.

Flores conducted a study of three bookkeeping courses taught in the Washoe County (Reno) School District, including only those enrollees who completed the training.[17] His sample was the 40 graduates of 65 enrollees, with a rate of return of 97.5 percent of his questionnaires, or 39 out of 40, either personally or by information given over the telephone.

Trooboff's study covered the period from 1963 through 1966.[18] His population consisted of 1,031 graduates and 444 dropouts of training programs in Atlanta, Georgia. He used the Form MT-101 to compile trainee characteristics data. Not measured were motivation, aptitude, attitude, or job satisfaction expectations,[19] nor were emotional and psychological factors included in the study.[20]

The trainees in Trooboff's study were selected only after the choice of training program had been made. He used dropouts from those selected as his control group, arguing that those who were selected for the training were more nearly alike than non-trainees. Further, he included in his control group only those who dropped out before completing 30 percent of the course. The 444 in his control group were drawn from a total of about 600 dropouts.[21]

The purpose of Trooboff's study was "...to answer specifically the question of whether or not the training program in Atlanta was able

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[17]Flores, op. cit., p. 2.

[18]Trooboff, op. cit., p. xii.

[19]Ibid., p. 19.

[20]Ibid., pp. 19-20.

[21]Ibid., p. 21.

to help disadvantaged, unemployed persons to find a place for themselves in the labor market."[22]

Besides seeking "...to provide a more accurate picture of employment experiences of MDTA graduates in Atlanta, Georgia,..." Trooboff wanted his study "...to serve as a means of providing verification of national compilations."[23]

Goldfarb's study involved a comparison of institutional and on-the-job training in New Haven, Connecticut. Included in the study were 73 males and 61 females.[24] He had no control group but used earnings before and after training as a measure of trainee success.[25]

Goldfarb recognized the difficulty of accurately selecting an identical control group.[26] He explained that the ideal control group would be identical to the training group in all respects except for the training.[27] He contended the "before-training earnings" criteria for a control group was not ideal because of labor market changes and personal aspects of trainees' lives which may change to make them more mature and responsible after training than before.[28]

The study which Rawlins conducted was one concerning institutional training, along with other types of training, in the East Bay

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[22]Ibid., p. 22.

[23]Ibid., p. 23.

[24]Goldfarb, op. cit., pp. 63-4.

[25]Ibid., p. 65.

[26]Ibid., p. 32.

[27]Ibid., p. 33.

[28]Ibid., p. 38.

Skills Center in North Oakland, California, from 1966 through 1968. He used a sample of 101 drawn from 546 trainees. In his sample, 75.5 percent were males and 24.5 percent were females. The average age of the trainees in the sample was 19.4 years, and the average educational level was 11.1 grades.[29]

Liddell's study covered 1962 through 1964 in California. He was concerned with the pre-training and post-training earnings of trainees, with their personal characteristics, and with the cost of operating the programs.

Liddell's sample of 4,388 was composed of 69.5 percent females and 30.5 percent males.[30] Of these, 8.1 percent had an education at or below the eighth grade, 23.7 percent had an education from grade nine to grade eleven, 51.1 percent had a twelfth grade education, and 17.3 percent had an education beyond the twelfth grade.[31]

Over 70 percent of Liddell's sample had three years or more work experience, and 30 percent had ten or more years experience.[32] About 20 percent had experienced unemployment of fifty-two weeks or more, 50 percent at least fifteen weeks, and 63 percent at least five weeks.[33]

A study by Boyer covered the period between 1963 and 1967 and included 1,373 trainees who had participated in the MDTA institutional

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[29]Rawlins, op. cit., pp. 110-3.

[30]Liddell, op. cit., p. 115.

[31]Ibid., p. 117.

[32]Ibid., p. 119.

[33]Ibid.

training.[34] Trainee characteristics studied were those found on the MT-101 form; a line graph depicting the trainee characteristics was presented. Of Boyer's sample, 60.1 percent completed training.[35]

Rapuano chose a stratified random sample of 35 percent from a population of 1,468. Those who had moved or who were incorrectly classified were replaced by an additional selection. He sought a response of from between 25 and 30 percent of the total population.[36] Only those respondents to his questionnaire who had been in the labor force during the previous twelve months were included in the regression analysis he performed.

Trainee characteristics were taken from Form MT-101. Rapuano's population was made up of those who were trainees in programs which were completed in 1967 and 1968, and those who were selected but failed to enroll in the training.[37]

The purpose of Rapuano's study was to compare the benefits derived from institution, on-the-job, and coupled training,[38] and "...to determine which type of training yields the greatest net benefits to the individual, to the government and to society."[39]

A study by Mestrovich was based on reports which were collected at intervals of three, six, and twelve months following the completion

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[34]Boyer, op. cit., pp. 16-7.

[35]Ibid., p. 44.

[36]Rapuano, op. cit., p. 147.

[37]Ibid., p. 146.

[38]Ibid., p. 7.

[39]Ibid.

of training. His population consisted of 1,176 graduates of training programs between 1965 and 1968. A sample of 398, or 34 percent, was used. Completed reports were available for the three, six and twelve month intervals after the completion of training for each trainee used in the sample.[40]

In the sample, 43 percent were females and 57 percent were males. Sixty-one percent were married and 71 percent were heads of household.[41] Further, 10.79 percent had an education below the eighth grade, 10.55 percent had an eighth grade education, 32.66 percent had an education from grade nine to grade eleven, 39.94 percent had a twelfth grade education, and 6.03 percent had an education beyond grade twelve.[42] Their employment status prior to training was as follows: 25 percent unemployed less than five weeks, 26 percent unemployed five to fourteen weeks; 23 percent unemployed fifteen to twenty-six weeks; 11 percent unemployed twenty-seven to fifty-two weeks, and 14 percent unemployed over fifty-two weeks.[43]

Elkin's study was meant to develop a model for benefit-cost analysis. He stated, "The purpose of benefit-cost analysis is to aid the decision making process. It can be used alone or in conjunction with other data to provide a framework within which to view the consequences of a particular action and/or inaction."[44]

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[40]Mestrovich, op. cit., p. 90.

[41]Ibid., p. 93.

[42]Ibid., pp. 92-3, 95.

[43]Ibid., p. 93.

[44]Elkin, R. D. "An Evaluation of Benefit-Cost Analysis as a Tool for Manpower Decision Making." (Ann Arbor: University Microfilms, 1971.), p. 4.

Commenting about the problem of control group selection, Elkin stated,

> ...the standard criticism of training analyses comparing training completers with training dropouts and/or nonenrollees is that the gains to training are overestimated due to lower motivation on the part of dropouts and nonenrollees than training completers.[45]

Elkin acknowledged that "it is difficult to select a truly identical control group..." as Goldfarb had argued.[46] But, Elkin continued, "on an operational basis, what is required of the control group is that they be as very nearly like the trainees as is possible."[47]

O'Boyle was concerned with "...whether the data collected with the MA-series are sufficient to properly assess institutional training under the Manpower Development and Training Act" and "...whether all the data collected are necessary."[48] He used no control group and did not compare earnings of trainees. The physical, social, and psychological needs of individuals were discussed by O'Boyle as he developed the study and analyzed his data.

Smith used the 109,000 graduates of Manpower Development Training Programs in the United States in fiscal year 1967 as the data base for his study.[49] In his population, about 85 percent were unemployed and about 15 percent were employed immediately prior to training.[50]

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[45]Ibid., p. 62.

[46]Ibid., p. 48.

[47]Ibid.

[48]O'Boyle, op. cit., p. 6.

[49]Smith, op. cit., p. 45.

[50]Ibid., p. 50.

Approximately 36 percent were white males, 23 percent were white females, 21 percent were nonwhite males, and 20 percent were nonwhite females. The age distribution was as follows: 16 percent were under age nineteen; 23 percent were nineteen to twenty-one; 50 percent were twenty-two to forty-four; 11 percent, forty-five and over.[51]

In developing his model, Smith computed the amount of time the trainees could have expected to work, based on their demographic characteristics and the national unemployment experience for the various demographic groups.

THE LITERATURE ON THE RESULTS OF TRAINING

Langdon gave hourly wage rate distributions after training,[52] as follows, with the Alabama rate given first and the average national rate second for comparison: under $.75, 8.9 and 4.7 percent; $.75 to $1.24, 13.6 and 16.5 percent; $1.25 to $1.49, 46.5 and 27.7 percent; $1.50 to $1.74, 13.8 and 17.6 percent; $1.75 and above, 16.9 and 33.5 percent.

He concluded that the Alabama MDTA programs were training people for low-paying jobs. He cited one case in which students were trained for jobs which paid fifty five cents per hour.[53] He continued with his explanation that the MDTA programs are based on the expressed needs of industry and pointed out that much of the demand from Alabama industry for workers is in the low-wage category.[54]

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[51] Ibid., p. 266.

[52] Langdon, op. cit., p. 265.

[53] Ibid., p. 266.

[54] Ibid.

Langdon did not get into any benefit-cost analysis of the Alabama MDTA training. His study was limited to a review of the law, previous studies, and a cursory analysis of certain demographic characteristics. The pre-training income of enrollees was not a part of his presentation, non did he make use of a control group in his study.

The average cost per trainee in Flores' study was $940 in 1962, $1,187 in 1963, and $2,280 in 1964 for twenty, twenty-five, and twenty enrollees, respectively.[55] He arrived at a student-hour cost for training costs. The student-hour cost times the number of hours of instruction gave the average training cost.[56]

Flores completed tables for twenty graduates, in which he computed gross earnings and federal income taxes paid for the year in which the training was received and the three years immediately thereafter. By comparing the sum of the taxes paid in the years after the completion of the course with the training cost, one could determine the proportion of the training cost that had been repaid.

Flores recommended that the basic minimum training allowance should be raised to a level which would encourage trainees to give up work outside the classroom while in training. He also recommended closer cooperation between the Employment Security Commission and the educational institution in selecting trainees.

It was Flores' conclusion that the benefits from training in the Washoe County School District were such for the individual and society that the training should continue.

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[55]Flores, op. cit., p. 67.

[56]Ibid., p. 72.

Trooboff had a return of 35.6 percent on the questionnaires sent to graduates and 20.9 percent on the questionnaires sent to dropouts, for a combined return of 31.2 percent.[57]

He determined that "...the mean average hourly earnings for all men was $1.10 compared to $.72 for women. Mean earnings for Negroes was $.76 against $1.07 for whites. The mean average hourly earnings for graduates on national programs was $1.44; for Atlanta the mean was $1.06. This difference reflects the generally recognized pay scale differentials in the South."[58] Trooboff determined that graduates of the program worked more hours and had higher earnings than dropouts.[59] He stated:

> When all graduate respondents are compared to all dropouts who responded to the survey, the evidence is conclusive that those who graduated from Atlanta's MDTA training program enjoyed better employment experience than those who did not participate in the training.[60]

Trooboff used the chi-square test to determine the significance of several variables in training.[61]

Goldfarb determined that the formal techniques which economists had used in evaluating manpower training programs were seriously deficient. He commented:

> 1. The nonmeasurability problem plus the necessity for looking at more than one project at a time (given the fact that decisionmakers face constrained budgets) cast serious doubt on the meaningfulness of attempting to make accept-reject decisions about particular investments.

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[57]Trooboff, op. cit., p. 156.

[58]Ibid., pp. 113-4.

[59]Ibid., pp. 162-3.

[60]Ibid., p. 164.

[61]Ibid., pp. 168-75.

2. The control group problem made it virtually impossible to be sure that we could measure correctly our major measurable benefit.

3. The learning process had barely begun for training programs, yet cost-benefit analysis tended to treat these programs as though they represented well-run and "experienced" activities.[62]

In evaluating on-the-job training and classroom training, Goldfarb determined that the former was more appropriate for the "very marginal" trainee while the latter was best suited where the training involved complex skills; otherwise, he noted that it was difficult to say which method was superior.[63]

Goldfarb concluded that "...low wages (entry and continuing) are a major cause of course failure...."[64] He asserted that "more thorough follow-ups of trainees with continuous and detailed 'mining' of the information gathered would do much to increase our knowledge of what makes a successful training program."[65]

According to Goldfarb, increases in the income of trainees came about for two reasons:

1. Movement from low-demand to high-demand areas without necessarily moving into a job with high skill requirements.

2. The training course taught skills which had a wage yield.[66]

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[62]Goldfarb, op. cit., p. 173.

[63]Ibid., p. 178.

[64]Ibid.

[65]Ibid., p. 93.

[66]Ibid., p. 148.

Goldfarb noted that one may need only counseling information to make a move in the case of the former, but that classroom training provided the skills needed to make the move in the case of the latter.[67]

According to Goldfarb, those who realized the greatest increase in income "...were those individuals who took courses involving skills which were quite complex and hard to learn."[68] Stated another way, he said that "...the most successful outcomes from classroom training resulted either from the acquisition of a scarce hard-to-learn skill or from shifts from low-wage, low-demand areas to high-demand areas."[69]

Rawlins concluded that MDTA on-the-job training provided the highest benefit-cost ratio.[70] He contacted the trainees after they had been out of training for periods ranging from six months to two years. The average salary was $2.28 for those finding employment related to training, compared to $2.19 overall. He concluded that one's ability to get a job related to his training resulted in a higher wage.

The Skills Center had the second highest benefit-cost ratio in Rawlins' study, but the "...statistical tests did not indicate that the training had significant impact on earnings, wage rate, or employment."[71]

Trainee cost per month was computed by Rawlins by the following formula:

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[67]Ibid., p. 148.

[68]Ibid., p. 149.

[69]Ibid., p. 175.

[70]Rawlins, op. cit., p. 177.

[71]Ibid., p. 178.

$$\text{Trainee cost per month} = TC \,/\, \frac{X_1 + X_2}{2} \cdot 1/Y$$

TC = Total cost adjusted for equipment and rental cost
X_1 = Number enrolled at the beginning of the course
X_2 = Number who completed the course
Y = Length of training course in months[72]

The cost per month was multiplied by the number of months one attended classes, to which the transportation allowance was added, to get the total cost for a trainee.[73]

Liddell computed "sunk costs, or those costs associated with trainees who dropped out of the training programs...."[74] He determined that sunk costs in his study ranged from a program low of $2,855 to a program high of in excess of $11,000, with an average sunk cost per dropout of about $250.[75] The mean trainee cost to the government was $2,148.[76]

He concluded "...that the individual in MDTA training may not be benefitting substantially from his training -- at least from an economic point of view -- in relation to his own investment (opportunity cost)."[77]

Liddell summarized a portion of the difficulty of evaluating MDTA programs:

> That unemployment in general rises or falls after the application of a particular amount of manpower training or

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[72] Ibid., p. 102.

[73] Ibid.

[74] Liddell, op. cit., p. ii.

[75] Ibid., pp. 224-5.

[76] Ibid., p. 221.

[77] Ibid., p. 133.

> that a large percentage of MDTA graduates obtains employment after training -- or any similar measure of the employment effects of training -- has little appeal as a gauge, when one considers the several other factors that may act to bring about the same result.[78]

Liddell did not use a control group, but used the difference between pre-training and post-training income as "...an indicator of the effect of training."[79]

Boyer analyzed the post-training experiences of the trainees under three classifications: 1. Those who completed training and realized post-training success; 2. Those who were dropouts; and 3. Those who completed training but did not realize post-training success.[80] He used the chi-square test of independence and two-way analysis of variance to analyze group differences.[81]

Based on his analysis of trainee personal data, Boyer concluded:

> Personal characteristics which differentiate trainees who were successful and non-successful in both the in-training and post-training aspects of M.D.T.A. Institutional training in Duluth, Minnesota, <u>can</u> be identified.[82]

He further concluded, based on the above, that:

> The use of personal characteristic profiles to predict a potential trainee's attainment of selected in-training and post-training success criteria is feasible, but at a relatively modest level of prediction.[83]

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[78]Ibid., p. 220.

[79]Ibid., p. 84.

[80]Boyer, op. cit., pp. 35-6.

[81]Ibid., pp. 31-2.

[82]Ibid., p. 147.

[83]Ibid., p. 149.

The training variables Rapuano used in his study enabled him to classify the individuals chosen for training as follows:

1. Completed and using institutional training.
2. Completed and using on-the-job or coupled training.
3. Completed but not using training.
4. Withdrew from training before completion.
5. Did not enroll.[84]

Rapuano determined that those who were using the institutional training had salaries greater than any of the other groups.[85]

Rapuano's control group was composed of:

1. All those who qualified for training but did not enroll and those who had been in the labor force at some time during the most recent 12 month period. It was decided to give no weight to the reasons for not enrolling.

2. Those individuals who withdrew from a course before completion regardless of the reason for withdrawal. Those who withdrew from training to take jobs related to training are excluded from the control group. These individuals are included with those who completed the course since it appears that they obtained the expected benefit from training although they did not remain in the course until its completion. Most of these individuals remained in the course up to one or two weeks before the course was scheduled to end. These occurrences were very rare.

3. The third component of the control group is made up of those individuals who completed training, but who at the time they were contacted were or had been employed in occupations completely unrelated to training and who would have been able to obtain and hold these occupations even if they had never enrolled in the program.[86]

Rapuano concluded:

...those who completed institutional training experienced the greatest improvement in their earnings and those who

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[84]Rapuano, op. cit., p. 151.

[85]Ibid., pp. 151-3

[86]Ibid., pp. 20-1.

> completed on-the-job training had the least improvement in earnings.[87]

He determined that net benefits to the individual were affected by the course and general market for the skills learned. With the exception of one course studied, Rapuano concluded, "...all other individuals realized a gain and the average benefit was greater than the highest cost incurred by any one individual."[88]

He further concluded:

> ...those who completed on-the-job training realized the smallest gain, the benefits from institutional training in the same occupations being roughly three times greater than the benefits from on-the-job training.[89]

Rapuano reported that the benefit-cost ratio for the government was 1.33 on the average, and was lower for the government than the individual in all cases in the study.[90] His final comment about the study was, "...it can be concluded that on the average the objectives of the Manpower Development Training Act were fulfilled."[91]

Mestrovich learned that "...median hourly earnings increased by 29 percent over pretraining levels. Median earnings prior to training were $1.74, whereas post-training median earnings were $2.24 per hour -- an upward shift of 50 cents per hour."[92] In the period 1965 to 1968, the median earnings for men increased from $2.50 to $2.84, or 13.6

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[87]Ibid., p. 65.

[88]Ibid., p. 136.

[89]Ibid.

[90]Ibid., p. 138.

[91]Ibid., p. 144.

[92]Mestrovich, op. cit., p. 97.

percent, and median earnings for women increased from $1.30 to $1.70, or 30.8 percent.

The area in which the study took place was highly industrialized, which accounted in part for the higher initial salary for men, since many jobs are in the skilled industrial category. The lower pre-training salary for women is explained by the nature of the jobs many women held as maids, waitresses, or baby sitters, with salaries ranging from $1.49 to a low of $.50 per hour.[93]

Mestrovich concluded "...that education is an important factor in determining earnings," and "...the lack of formal education prior to training can act as a deterrent to earning mobility."[94]

The results of his regression analysis confirmed that sex was the dominant force influencing earning mobility.[95] Mestrovich stated that MDTA training "...imparts to the individuals, the capabilities of substantially increasing their earning ability once participating in the program."[96] He further concluded "...that the mere completion of a course of study in the South Bend MDT program improves the trainees changes (sic) of employment significantly (nearly one third) over those who merely enrolled in training."[97]

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[93]Ibid., pp. 109-10.

[94]Ibid., p. 119.

[95]Ibid., p. 123.

[96]Ibid., p. 125.

[97]Ibid., p. 145.

Overall, Mestrovich reported, "...75 per cent of the trainees increased earnings over pre-training levels, 22 per cent decreased earnings, and 4 per cent showed lateral movement."[98] The most important variables, in order of influence on earnings, were sex, MDT training, age, and education, according to Mestrovich.[99]

O'Boyle commented on the benefit of training in relation to helping reduce unemployment:

> To the extent that institutional training reduces the post-training risk of unemployment or shortens its duration, the program helps curtail unemployment insurance costs. Additionally, insofar as the need for training is detected and the unemployed individual is enrolled before his unemployment insurance benefits are exhausted, savings will turn up before training as well. However, pre-training savings are likely to be comparatively small because of the difficulty in detecting the need for training in the early stages of unemployment.[100]

He gave a warning to those who would compare projects on a benefit-cost basis only. O'Boyle said:

> ...the individual who sets out to assess a given training project can compare it only to projects that enroll roughly equal numbers or proportions of persons with the same need and the same ability to help themselves.[101]

O'Boyle concluded that the MA-series of forms collected data that was insufficient to properly assess training.[102] He recommended that researchers "...use persons who enrolled in training but did not

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[98]Ibid., p. 147.

[99]Ibid., p. 149.

[100]O'Boyle, op. cit., pp. 76-7.

[101]Ibid., p. 106.

[102]Ibid., p. 209.

complete as a control group."[103] To make studies more meaningful, he recommended that a survey be "...made 12 months after training."[104]

SUMMARY

This Chapter has reviewed a number of studies of Manpower Development Training Programs. Control groups were not used in the majority of dissertations reviewed. Emphasis was placed on the gains made by graduates and characteristics of graduates and programs which could be identified as contributing to graduate success.

Of the studies reviewed, only two used samples composed of more than 1,400 persons. The range of sample size was from a low of 40 graduates to a high of 109,000 graduates.

The review of the literature showed that increases in incomes resulted from the training. There was not complete agreement as to the amount of benefits which resulted from the training.

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[103] Ibid., p. 210.

[104] Ibid.

CHAPTER III

THE POPULATION AND THE COLLECTION OF THE DATA

This Chapter contains a description of the population of the study, the data which were used, and the sources from which the data were collected. The instruments used in the collection of the data are presented and explained.

THE POPULATION

The total potential population upon which this study was based consisted of 705 trainees who enrolled in the Manpower Development Training programs at Richmond Technical Institute in Richmond County, North Carolina, from 1967 through October 31, 1973. Of this number, 331 trainees, or 47 percent of the potential population, were included in the sample of the study since they reside in the tri-county area which was described as being the area included in the study.

This study concentrated only on those trainees who completed their courses of study and who reside in the tri-county area. Of 378 trainees, or 53.6 percent of the total potential population, who graduated from the training programs during the period covered by the study, only forty-seven live outside the tri-county area of the study. These forty-seven trainees were excluded when data were treated. A total of 153 responses was received from the 331 graduates in the sample, giving a return of 46.2 percent of the questionnaires.

There was no control group in this study because of the manner in which the research was designed. Earnings before and after training were compared for the purpose of determining whether or not wage differences had occurred. Wages before and after certified training served as a control in a comparative sense.

THE DATA USED

The data in this study were those required to construct trainee profiles for each year of operation of the study and those needed to estimate the costs and benefits of training. Data upon which to compute the cost per trainee were furnished by the Manpower Administration of the United States Department of Labor, Washington, D.C., by the Accountant for the North Carolina Department of Community Colleges, Raleigh, North Carolina, by audit reports for individual programs at Richmond Technical Institute, and by a review of individual trainee records.

Data employed in computing changes in public assistance payments in the tri-county area were furnished by the North Carolina Department of Social Services, Raleigh, North Carolina, and by the Director of the Richmond County Department of Social Services, Rockingham, North Carolina.

Finally, data for computing changes in the employment rates in the tri-county area during the period of time covered by the study were furnished by the Rockingham and Raleigh offices of the North Carolina Employment Security Commission.

Information on the trainees was obtained from Form MT-101 or Form MA-101,[1] Characteristics of Trainees. These forms were completed when

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[1]Form MT-101 was changed to Form MA-101 after 1968. A facsimile of Form MA-101 is given in Appendix L.

the applicants applied for Manpower Development Training. Major bits of information derived from these forms, together with coded identification categories, are as follows:

1. Sex....Code 1, Male; Code 2, Female.

2. Race....Code 1, White; Code 2, Black; Code 3, Other. (Race information was not available for 1967 and 1968.)

3. Handicapped....Code 1, Yes; Code 2, No.

4. Disadvantaged....Code 1, Yes; Code 2, No.

5. Primary Wage Earner....Code 1, Yes; Code 2, No.

6. Age....Code 1, Under 19 Years; Code 2, 19 to 21 Years; Code 3, 22 to 34 Years; Code 4, 35 to 44 Years; Code 5, 45 Years and Over.

7. Marital Status....Code 1, Married; Code 2, Single; Code 3, Other.

8. Head of Household....Code 1, Yes; Code 2, No.

9. Number of Dependents....Code 1, 0; Code 2, 1; Code 3, 2; Code 4, 3; Code 5, 4; Code 6, 5 and Over.

10. Highest Grade Completed....Code 1, Grades 0-7; Code 2, Grade 8; Code 3, Grades 9 to 11; Code 4, Grade 12; Code 5, Over 12th Grade.

11. Employment Status of Applicant at Time of MDTA Enrollment....Code 1, Employed; Code 2, Unemployed; Code 3, Underemployed.

12. Weeks Unemployed Prior to MDTA Enrollment....Code 1, Under 5 Weeks; Code 2, 5 to 14 Weeks; Code 3, 15 to 26 Weeks; Code 4, 27 to 52 Weeks; Code 5, Over 52 Weeks.

13. Work Experience Prior to MDTA Enrollment....Code 1, Under 2 Years; Code 2, 2 Years; Code 3, 3 to 9 Years; Code 4, 10 or More Years.

14. Public Assistance Recipient at Time of MDTA Enrollment....Code 1, Yes; Code 2, No.

15. Unemployment Compensation Recipient at Time of MDTA Enrollment....Code 1, Yes; Code 2, No.

The definition of "disadvantaged persons" used by the federal government is as follows:

> Disadvantaged "...means persons who have academic, socio-economic, cultural, or other handicaps that prevent them from succeeding in vocational education or consumer and homemaking programs designed for persons without such handicaps, and who for that reason require specially designed educational programs or related services. The term includes persons whose needs for such programs or services result from poverty, neglect, delinquency, or cultural or linguistic isolation from the community at large, but does not include physically or mentally handicapped persons, unless such persons also suffer from the handicaps described in this paragraph."[2]

The definition of "handicapped persons" used by the federal government is as follows:

> Handicapped "...means mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired persons who by reason of their handicapping condition cannot succeed in a vocational or consumer and homemaking education program designed for persons without such handicaps, and who for that reason require special educational assistance or a modified vocational or consumer and hamemaking [sic] education program."[3]

Information on the number of days attended and whether or not the trainee achieved the training objective was derived from Form MT-102,[4] Individual Trainee Termination Training or Services. Similarly, the amounts of training and travel allowances paid each trainee were verified by Form ES-950B,[5] Referral Notice.

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[2]United States Department of Health, Education, and Welfare, Suggested Utilization of Resources and Guide for Expenditures (Division of Vocational and Technical Education, Washington, D. C., 1970) p. 3.

[3]Ibid., p. 9.

[4]Form MT-102 was changed to Form MA-102 after 1969. A facsimile of Form MA-102 is given in Appendix M.

[5]See Appendix N.

THE INSTRUMENTS USED TO COLLECT DATA

After the collection of the data described above, Appendixes A through G were used to collect additional data.

Appendix A, Employment Questionnaire, and Appendix B, Graduate Letter, were mailed to each graduate whose address was within the tri-county area. Appendix A was used to collect employment and salary information for each graduate since the completion of training. Appendix B, which accompanied Appendix A, explained the purpose of the contact with the graduate and asked for the completion and return of the questionnaire. A return self-addressed, stamped envelope was enclosed with the letter and questionnaire.

As anticipated by this researcher, some questionnaires were returned undelivered, because the graduates had moved, leaving no forwarding address. Returns of this nature were checked for a more current address against city directories in the tri-county area. Those for which a new address could be located were sent Appendixes A and B again. Those graduates for which no current address could be found were marked "Unable to Contact" on the research master card[6] maintained for each graduate.

The completed questionnaires were numbered consecutively as they were received from the graduates. From these responses, a list of employers was constructed with the name of each responding graduate written beside the name of his employer. On the research master card maintained for each graduate, the date of the initial mailing was recorded and the dates of mailings necessitated by address changes were also recorded

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[6] See Appendix O.

whenever necessary. When no forwarding addresses existed, the graduates' cards were marked "Unable to Contact."

Two weeks after the initial mailing, a second mailing was made to those graduates who had not yet responded, excluding those with address changes. A second set of instruments, Appendixes A and B, was sent as before.

One week after the second set of instruments had been mailed to the graduates, the researcher began contacting in person or by telephone those graduates who had not yet responded to the mailings of the questionnaire. On these personal visits and in the telephone conversations, information was recorded as if it had been received by return mail.

Four weeks after the last mailing necessitated by address changes, it was decided that no additional questionnaires would be received by return mail and that no other graduates could be contacted in person or by telephone. The list of employers was then reviewed and preparations were made for contacting them.

Appendixes C and D were used in soliciting and collecting information from employers of graduates. Appendix C, Employer Questionnaire, was designed to collect employment and salary information about graduates, as well as job growth potential for graduates. Appendix D, Employer Letter, accompanied the questionnaire and asked for its completion and return. A return self-addressed, stamped envelope was included with the questionnaire. Two weeks after the initial mailing of these forms, those employers who had not yet returned them were contacted by telephone or in person. The desired information was provided in all cases.

Appendix E, Questionnaire for Employment Security Commission, was designed to record the feelings of respondents concerning the role of the Employment Security Commission in interviewing, testing, placing graduates, and doing follow-up work with Manpower Development Training program graduates.

Ten members of the tri-county offices of the Employment Security Commission completed the form, as did ten former and present Manpower Development Training instructors. The twenty who completed this instrument were selected since they represent different interests in the continuing process of Manpower Development Training.

Appendix F, Graduate Questionnaire, was designed to record the graduates' opinions of specific aspects of their experiences as trainees in the Manpower Development Training programs. Those graduates whose returned questionnaires had been assigned a number divisible by five were contacted in person and asked to complete the questionnaire. A return of 100 percent was realized for this instrument.

SUMMARY

This Chapter has contained an explanation of how the data used in the study were collected. The total potential population of the study was identified and the selection of the sample of the study was explained.

The procedure followed in collecting the data from graduates, employers, and others was explained. Instruments used in the collection of the data were presented and the purpose of each was explained.

CHAPTER IV

ANALYSIS OF THE DATA

This Chapter contains an explanation of how the data were treated for analysis. The data were treated in a manner permitting consideration of the four null hypotheses. The null hypotheses were stated as follows:

1. There was no significant difference in the last income of graduates of Manpower Development Training programs before training and their first income following the completion of training.

2. There was no significant reduction in unemployment during the period of the Manpower Development Training in the tri-county area.

3. There was no significant reduction in the number of welfare payments during the period of the Manpower Development Training in the tri-county area.

4. There was no significant variation of the cost-recovery period from the usual expectation of one year or less.

THE CHANGES IN INCOME

Returned completed questionnaires from the graduates were used to construct frequency distributions of income in three categories: (1) last income before training for all graduates responding to the questionnaire; (2) first income of responding graduates following the completion of training; and (3) present income of all graduates who responded to the questionnaire. A fourth category, last income before training for all enrollees, was constructed with data gleaned from individual student files.

Comparison of Earnings

In this section of the Chapter, the incomes of those graduates who responded to the questionnaire were compared. Pre-training and post-training incomes were compared to determine whether or not a significant change occurred in the level of income for graduates. The computations were made for the graduates in each fiscal year as a group, since the small number of graduates in some of the programs and the limited number of responses from the graduates of some programs made the treatment of data by programs impractical.

The salary data were arranged in frequency distributions such as that reflected in Appendix G.[1] The researcher then determined the mean, median, mode, and standard deviation in each fiscal year for the last income of all enrollees before training, the last income of all graduates before training, the first income of all graduates after training, and the present income of all graduates. In all cases the incomes were expressed as hourly incomes. These data are shown in Table 4-1.

The mean pre-training hourly income of the 1967 graduates was $1.04 and the mean post-training hourly income was $1.78, an increase of 71.2 percent. While over one third of the 1967 graduates' pre-training incomes were less than $1.00 per hour, only 5.3 percent of their first incomes after training were that low. At the same time, only 5.3 percent of their pre-training incomes were $1.50 per hour or greater, but 73.7 percent of their first incomes after training were $1.50 per hour or greater.

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[1]See Appendix G.

TABLE 4-1

The Number of Enrollees and Graduates of Manpower Development Training Programs at Richmond Technical Institute and Mean, Median and Modal Incomes for Fiscal Years 1967 through 1973

		Year	Number	Income in Dollars Mean	Median	Mode	Standard Deviation
Pre-training Income For	All Trainees	1967	122[a]	$1.40	$1.11	$1.25	$.51
		1968	84[b]	1.46	1.36	1.25	.68
		1969	80	1.61	1.60	1.75	.42
		1970	144[c]	1.78	1.77	1.75	.64
		1971	109[d]	1.81	1.74	1.75	.78
		1972	105	2.00	1.91	1.75	.63
		1973	44	1.80	1.91	1.75	.78
	Graduates	1967	77	$1.04	$1.05	$1.25	$.45
		1968	37	1.39	1.27	.75	.77
		1969	31	1.53	1.58	1.75	.91
		1970	82	1.77	1.76	1.75	.67
		1971	58	2.04	1.82	1.75	.95
		1972	60	2.03	1.98	1.75	.61
		1973	33	1.88	1.95	2.25	.29
First Income After Training	Graduates	1967	19	$1.78	$1.82	$1.75	$.55
		1968	11	1.66	1.85	1.75	.36
		1969	14	2.25	2.25	2.25	.19
		1970	39	2.21	2.19	2.25	.35
		1971	31	2.27	2.25	2.25	.38
		1972	22	2.43	2.40	2.25	.44
		1973	17	2.37	2.53	2.75	.56
Present Income	Graduates	1967	19	$2.70	$2.46	$2.25	$.74
		1968	11	3.25	2.37	1.75	1.60
		1969	14	3.86	3.91	3.75	.54
		1970	39	3.35	3.35	3.25	.83
		1971	30[e]	3.18	3.08	2.25	.69
		1972	22	3.25	3.41	3.75	.60
		1973	17	2.58	2.60	2.75	.45

[a]Excludes 4 with no work experience
[b]Excludes 3 with no work experience
[c]Excludes 7 with no work experience
[d]Excludes 3 with no work experience
[e]Excludes 1 disabled and no longer able to work

The 1968 graduates realized a compacting of their incomes in an upward direction. The mean hourly income for this group increased from the pre-training level of $1.39 to the post-training level of $1.66 per hour. While 45.4 percent of their incomes were below $1.25 per hour prior to training, all the graduates were able to earn $1.25 or more per hour after completing training.

The 1969 graduates' mean hourly incomes increased from $1.53 to $2.25, an increase of more than 47 percent. Of these graduates, 43 percent had pre-training incomes under $1.75 per hour, but no post-training incomes were under that level. In this group of trainees, 92.9 percent began work after training at a salary of $2.00 or more per hour. Before training, only 21.3 percent of the group were making as much as $2.00 per hour.

The mean hourly income of the 1970 graduates increased by 24.9 percent from $1.77 to $2.21. No graduate began work at less than $1.50 per hour, while 29.5 percent of them had pre-training incomes below $1.50 per hour. Almost two thirds of these graduates, (64.7 percent), were earning between $2.00 and $2.49 per hour after training, while only 17.7 percent were in that range prior to training, and 67.7 percent were earning less than $2.00 per hour before training.

The 1971 graduates' mean hourly incomes increased from $2.04 before training to $2.27 after training, an increase of 11.3 percent. While 62.1 percent of this group's incomes after training were between $2.00 and $2.49 per hour, only 17.3 percent of their incomes were in that range before training. The pre-training incomes under $2.00 were 62.1 percent compared to 20.7 percent under $2.00 after training. Included in

the pre-training incomes were three over $3 per hour, one of which was $6 per hour. Post-training incomes ranged to a high of $3.24 per hour.

The 1972 graduates' mean hourly incomes increased from $2.03 to $2.43, an increase of 19.7 percent. Of this group, one half had incomes before training under $2 per hour, while only 13.6 percent of the incomes after training were less than $2 per hour. After training, 59.2 percent of these graduates made between $2.25 and $2.74 per hour, compared to 18.2 percent earning at that level before training.

The mean hourly incomes of the 1973 graduates increased by 26.1 percent, from $1.88 to $2.37. While 88.2 percent of the trainees were earning less than $2.50 per hour before training, only 47.1 percent of them were earning less than that after training.

Wages for workers in general in the tri-county area were not considered in the study because of the manner in which the research was designed.

Garrett[2] was the source referred to in computing the differences between the pre-training and post-training incomes of graduates. The "t" scores were compared with a table of values of the critical ratios to determine whether or not there were significant differences in the incomes. Table 4-2 presents the results of the computations.

The comparison of income changes was limited to those graduates who returned a completed questionnaire. The percentages of graduates returning questionnaires by year were as follows: 1967, 27.1 percent; 1968, 33 percent; 1969, 56 percent; 1970, 50 percent; 1971, 53 percent;

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[2]Garrett, Harry E. Elementary Statistics (New York: David McKay Company, Inc., 1966.), pp. 3-203.

TABLE 4-2

Comparative Earnings "t" Scores of Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing the Last Earnings Before Training and Earnings of the First Job After Completing Training, Fiscal Years 1967 through 1973

Year	Degrees of Freedom (df)	"t" Scores	Significant at Level: .05	.01
1967	18	5.125	Yes	Yes
1968	10	3.57	Yes	Yes
1969	13	2.75	Yes	No
1970	38	2.82	Yes	Yes
1971	30	1.12	No	No
1972	21	4.11	Yes	Yes
1973	16	.85	No	No

1972, 46.8 percent; 1973, 53.1 percent. Overall, 44.1 percent of the graduates returned questionnaires.

The computations to determine if there were a significant difference in the income of the graduates before and after training were based on the following formulas from Garrett:[3]

$$M_D = \frac{\Sigma D(X)}{N}$$

M_D = Mean of the differences in income

D(X) = Difference in income before and after training

[3] Ibid.

N = Number of graduates who responded

$$s = \sqrt{\frac{x^2}{(N-1)}}$$

s = Standard deviation computed by formula

x^2 = The square of the differences in incomes

$$SE_{M_D} = \frac{s}{\sqrt{N}}$$

SE_{M_D} = The standard error of the mean of the differences in the trainees' incomes

$$\text{"t"} = \frac{M_D}{SE_{M_D}}$$

"t" = The critical ratio

Based on the calculations to determine the difference between the incomes and the "t" scores obtained, several highly significant differences were identified. For 1967, 1968, 1970, and 1972, the differences were significant at the .01 level; for 1971 and 1973, there were no significant changes. The 1969 change was significant at the .05 level.

Summary

This section of Chapter IV has contained an explanation of the treatment of the data. Salaries were arranged in frequency distributions and treated statistically. It was learned that starting salaries of graduates increased each year, when compared to their pre-training hourly incomes. Table 4-1 provided the mean, median, mode, and standard deviation for the trainees each year.

The changes in income were significant at the .01 level for the graduates in 1967, 1968, 1970, and 1972, and significant at the .05

level in 1969. There were no significant changes in the incomes of the graduates in 1971 and 1973.

THE CHANGES IN UNEMPLOYMENT

Data for this section of the study were furnished by the North Carolina Employment Security Commission offices in Raleigh and Rockingham, North Carolina. The number of persons unemployed in the tri-county area was divided by the number of workers in the work force in the area to determine the unemployment rate for the area.

Table 4-3 presents the total number of unemployed workers and the number of workers in the work force in the tri-county area, the unemployment rates, the "t" scores, and levels of significance. Changes significant at the .01 level were noted for 1968, 1970, and 1972. A change significant at the .05 level was observed for 1972, while no significant changes occurred in 1969 and 1973.

In 1970, the change was a highly significant increase, while all other significant changes were decreases in the number of unemployed persons. No computations for 1967 were made since that was the first year in which Manpower Development Training was offered at Richmond Technical Institute. The unemployment data for 1974 are not yet available, so no computations could be made to determine whether or not there was a significant change in unemployment following the completion of training in 1973.

Garrett[4] was the reference for computing the significance of the difference between two percentages in this section. The formulas used

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[4]Ibid.

TABLE 4-3

The Number of Unemployed and Employed Persons and Unemployment Rates in the Tri-County Area Composed of Anson, Richmond, and Scotland Counties, North Carolina, from 1967 through 1973, with "t" Scores and Levels of Significance

Year	Number Unemp.	Number Empl.	Percent Unemp.	"t" Score	"df"	Significant at Level: .05	.01
1967	1,840	36,890	5.0	----	----	---	---
1968	1,500	37,690	4.0	6.67	37,688	Yes	Yes
1969	1,630	39,010	4.2	1.43	39,008	No	No
1970	2,200	39,470	5.6	9.33	39,468	Yes	Yes
1971	2,110	40,530	5.2	2.5	40,528	Yes	No
1972	1,580	40,170	3.9	9.29	40,168	Yes	Yes
1973	1,600	40,000	4.0	1.00	39,998	No	No

were as follows:

$$SE_{D_{\%}} = \sqrt{(PQ)\ \frac{1}{N_1} + \frac{1}{N_2}}$$

P = Mean of the percentages in the two groups

Q = (1-P)

N_1 = Number of cases in Group 1

N_2 = Number of cases in Group 2

$$\text{"t"} = \frac{D}{SE_{D_{\%}}}$$

D = The difference between the two percents

$SE_{D_{\%}}$ = The standard error of the difference between two percentages

Garrett's table for the values of the critical ratio was referred to for the level of significance in each case.

THE REDUCTIONS IN WELFARE COSTS

The review of the rate of welfare payments in the tri-county area was restricted to a comparison of the payments classified as "Aid to Families with Dependent Children." This category included only those cases in which there were financial need, dependent children, and at least one parent capable of work present in the home. Aid to the Aged (AA), Aid to the Blind (AB), and Aid to the Disabled (AD) were not included in the analysis.

There were several factors which affected the number of cases the Department of Social Services handled:

1. Changes in programs, such as standards of eligibility and assistance levels.

2. Expansion of Social Security, Veterans Administration, Unemployment Compensation, and other pension and assistance programs.

3. Inflation trends.

4. Manpower Programs - Because of the nature of the programs, Manpower Training is related much closer to Aid to Families with Dependent Children than to Aid to the Aged, Aid to the Disabled, or Aid to the Blind. The former often had the younger, or able-bodied parent - usually just one.[5]

Table 4-4 presents an analysis of the changes in the number of welfare cases in the tri-county area from 1967 through 1973. There were no significant changes in the number of welfare cases in the area during

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[5]Letter dated April 4, 1974, from Mr. Brent Yount, Director, Richmond County Department of Social Services, Rockingham, North Carolina. Permission to quote secured.

the period covered by the study.

TABLE 4-4

An Analysis of Changes in the Number of Welfare Cases in the Tri-County Area Comprised of Richmond, Anson, and Scotland Counties, North Carolina, from 1967 through 1973, with "t" Scores and Levels of Significance

Year	Total Population	Cases		"t" Score	Significant at Level:	
		Total	Percent of Population		.05	.01
1967	90,026	2,911	3.2	(a)	---	---
1968	90,120	2,912	3.2	0	No	No
1969	90,241	3,207	3.6	.2	No	No
1970	90,306	3,039	3.4	.4	No	No
1971	90,632	2,968	3.3	.8	No	No
1972	89,943	2,857	3.2	.8	No	No
1973	92,023	2,660	2.9	.27	No	No

(a) No "t" score was computed for 1967, the first year Manpower Training was offered in the tri-county area.

THE COST-RECOVERY PERIOD

The determining of the cost-recovery period for each of the fiscal years involved a number of computations before a decision could be made about the repayment of the costs of training through increased taxes paid by the graduates.

The Manpower Administration of the United States Department of Labor, Washington, D.C., and the Accountant for the North Carolina

Department of Community Colleges, Raleigh, North Carolina, provided the researcher with the training costs per program. Each program's audit report was reviewed to determine the amount spent for equipment. The Manpower Administration and a review of the individual records of trainees provided a statement of the total allowances paid. Administrative costs to outside agencies were limited to an estimate of the cost to the Rockingham, North Carolina, office of the Employment Security Commission. The Manager of that office provided the cost-information estimates for use in this study.

Computing Training Costs

A preliminary training cost for each fiscal year was determined by dividing the total instructional costs, including instructional and administrative salaries, rent, supplies, and other costs, by the number of enrollees for the year. Only 20 percent of the expenditures for equipment were included, as explained below.

Some writers did not spread the cost of equipment over useful-life periods.[6] Rawlins depreciated the cost over a five-year period.[7] Flores assumed a ten-year useful life for equipment.[8] This researcher

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[6]Rapuano, F. "A Comparative Cost-Benefit Analysis of MDTA Training in the Boston Area." (Ann Arbor: University Microfilms, 1970.), p. 47; Liddell, W. J. H., Jr. "The Manpower Development and Training Act in California: Costs, Returns, and the Prediction of Individual Success." (Ann Arbor: University Microfilms, 1969.), p. 121; Smith, R.E. "An Analysis of the Efficiency and Equity of Manpower Programs." (Ann Arbor: University Microfilms, 1972.), p. 74.

[7]Rawlins, V.L. "Government Sponsored Training Programs for the Disadvantaged Youth as a Part of Efficient Long-Run Manpower Policy." (Ann Arbor: University Microfilms, 1969.), p. 99.

[8]Flores, Froilan. "An Historical and Cost Analysis of Manpower Development Training Act Programs in the Washoe County (Reno) School District." (Ann Arbor: University Microfilms, 1969.), p. 71.

decided to use a five-year useful life period. Use by the inexperienced trainees was likely to result in rough treatment and frequent breakage.

Table 4-5 is a compilation of the enrollees, dropouts, and graduates of the Manpower Training programs at Richmond Technical Institute from 1967 through 1973. Tables 4-6 through 4-12 present the costs of training to the individual and the government, from 1967 through 1973.

TABLE 4-5

Enrollees, Dropouts, and Graduates of Manpower Development Training Programs at Richmond Technical Institute, by Fiscal Year, from 1967 through 1973

Year	Number of Enrollees	Number of Dropouts	Number of Graduates	Percent Graduates
1967	126	49	77[a]	61.1
1968	87	50	37[b]	42.5
1969	80	49	31[c]	38.8
1970	151	69	82[d]	54.3
1971	112	54	58[e]	51.8
1972	105	45	60[f]	57.1
1973	44	11	33[g]	75.0

[a]Includes 7 who live outside tri-county area.
[b]Includes 4 who live outside tri-county area.
[c]Includes 6 who live outside tri-county area.
[d]Includes 13 who live outside tri-county area.
[e]Includes 3 who live outside tri-county area.
[f]Includes 13 who live outside tri-county area.
[g]Includes 1 who lives outside tri-county area.

TABLE 4-6

Cost of Training Per Graduate and Earnings Differential for 1967 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$108,664	$ 862
Allowances:	137,829	1,094
Cost to Employment Security Commission	1,922	15
Subtotal	$248,415	$1,971
Less: Transfer Payments	36,432	289
Government's Cost per Graduate	$211,983	$1,682
Plus: Earnings Foregone per Graduate		1,200
Total Cost of Training per Graduate		$2,882
Earnings Differential		$1,065

*Equipment purchases of $21,143 were reduced by 80 percent, assuming a useful average instructional life of five years.

The allowances paid were divided by the number of enrollees and added to the preliminary cost of instruction which was described above. To that was added the estimated cost to the Employment Security Commission for interviewing, placing, and conducting follow-up activities for each trainee. Table 4-13 presents the estimated costs to the Employment Security Commission for those activities from 1967 through 1973.

Transfer payments were computed as explained below. The average trainee attendance was computed first, based on the assumption that on the average the dropouts attended one half the training time. This

TABLE 4-7

Cost of Training Per Graduate and Earnings Differential for 1968 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$ 85,184	$ 979
Allowances:	75,132	863
Cost to Employment Security Commission:	1,405	16
Subtotal	$161,721	$1,858
Less: Transfer Payments	22,955	264
Government's Cost per Graduate	$138,766	$1,594
Plus: Earnings Foregone per Graduate		1,687
Total Cost of Training per Graduate		$3,281
Earnings Differential		$ 349

*Equipment purchases of $4,959 were reduced by 80 percent, assuming a useful average instructional life of five years.

assumed that the dropouts were spaced at a regular rate throughout the training period, resulting in a half-time average attendance. The following formula was used to compute the average trainee attendance:

$$AT = \frac{(N_1T_1 + N_2T_2)(4.4)}{N_o}$$

AT = Average trainee attendance, in weeks

N_1 = Number of graduates

T_1 = Length of training period, in months

TABLE 4-8

Cost of Training Per Graduate and Earnings Differential for 1969 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$ 89,672	$1,121
Allowances:	54,082	676
Cost to Employment Security Commission:	1,372	17
Subtotal	$145,126	$1,814
Less: Transfer Payments	20,038	250
Government's Cost per Graduate	$125,008	$1,564
Plus: Earnings Foregone per Graduate		1,437
Total Cost of Training per Graduate		$3,001
Earnings Differential		$ 882

*Equipment purchases of $1,958 were reduced by 80 percent, assuming a useful average instructional life of five years.

N_2 = Number of dropouts[9]

T_2 = One half the length of the training period, in months

4.4 = Number of weeks in a month

N_o = Number of enrollees

The transfer payments were computed as follows:

$$TP = \frac{(AT)(B_a)(R)}{N_o}$$

TP = Transfer payments

[9]See Table 4-1.

TABLE 4-9

Cost of Training Per Graduate and Earnings Differential for 1970 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$125,220	$ 829
Allowances:	108,388	718
Cost to Employment Security Commission:	2,741	18
Subtotal	$236,349	$1,565
Less: Transfer Payments	56,940	377
Government's Cost per Graduate	$179,409	$1,188
Plus: Earnings Foregone per Graduate		1,624
Total Cost of Training per Graduate		$2,812
Earnings Differential		$ 500

*Equipment purchases of $3,281 were reduced by 80 percent, assuming a useful average instructional life of five years.

AT = Average trainee attendance

B_a = Amount of basic allowance, based on average number of dependents for trainees in a given year

R = Number of trainees receiving public assistance and unemployment compensation payments

N_o = Number of enrollees

Foregone Earnings

Smith defined a trainee's foregone earnings as "...the product of the duration of his training, the wage rate that he could have received while employed, and the expected proportion of the period during which he

TABLE 4-10

Cost of Training Per Graduate and Earnings Differential for 1971 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$ 90,804	$ 811
Allowances:	99,908	892
Cost to Employment Security Commission:	2,156	19
Subtotal	$192,868	$1,722
Less: Transfer Payments	32,054	286
Government's Cost per Graduate	$160,814	$1,436
Plus: Earnings Foregone per Graduate		1,536
Total Cost of Training per Graduate		$2,972
Earnings Differential		$ 117

*Equipment purchases of $1,964 were reduced by 80 percent, assuming a useful average instructional life of five years.

would have worked."[10] Rawlins assumed foregone earnings "...to be zero."[11] Rapuano[12] assumed that of those who were employed and unemployed when training began, the employed would have worked 80 percent of the time and the unemployed would have remained unemployed. The cost to

[10]Smith, R. E. "An Analysis of the Efficiency and Equity of Manpower Programs." (Ann Arbor: University Microfilms, 1972.), p. 39.

[11]Rawlins, V. L. "Government Sponsored Training Programs for the Disadvantaged Youth as a Part of Efficient Long-Run Manpower Policy." (Ann Arbor: University Microfilms, 1969.), p. 99.

[12]Rapuano, F. "A Comparative Cost-Benefit Analysis of MDTA Training in the Boston Area. (Ann Arbor: University Microfilms, 1970.), p. 31.

TABLE 4-11

Cost of Training Per Graduate and Earnings Differential for 1972 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*		
Allowances:		
Cost to Employment Security Commission:		
Subtotal		
Less: Transfer Payments		
Government's Cost per Graduate		
Plus: Earnings Foregone per Graduate		
Total Cost of Training per Graduate		
Earnings Differential		

*Equipment purchases of $1,664 were reduced by 80 percent, assuming a useful average instructional life of five years.

the former would have been equal to their lost wages, less taxes and transportation; the cost to the latter group would have been equal to the unemployment compensation benefits they would have received.

This researcher has decided that Smith's approach is most suitable for this study. This decision was based on the premise that one could reasonably expect some who were employed prior to training to become unemployed, had they not elected to participate in the training. Conversely, one could reasonably expect that some of those who were unemployed prior to training would become employed before the training

TABLE 4-12

Cost of Training Per Graduate and Earnings Differential for 1973 Graduates of Manpower Development Training Programs at Richmond Technical Institute

	Total Cost	Cost Per Trainee
Training Costs:*	$112,323	$2,553
Allowances:	50,331	1,144
Cost to Employment Security Commission:	953	22
Subtotal	$163,607	$3,719
Less: Transfer Payments	19,836	451
Government's Cost per Graduate	$143,771	$3,268
Plus: Earnings Foregone per Graduate		2,070
Total Cost of Training per Graduate		$5,338
Earnings Differential		$ 848

*Equipment purchases of $392 were reduced by 80 percent, assuming a useful average instructional life of five years.

period was over, had they not elected to participate in the training.

The foregone earnings model with which Smith worked estimated the earnings the graduates could have expected to realize if they had not participated in the training and if they had worked as long as work was available to them during the training period. Since this study has resulted in a computation of the mean hourly salary of all graduates, it was used in place of the mean hourly salary of all enrollees which Smith used.

TABLE 4-13

Cost to the Employment Security Commission for Interviewing, Testing, Placing, and Doing Follow-up Work with Manpower Development Training Students, Based on the Average Hourly Wages of Employment Security Commission Interviewers, at an Average of Five Hours Per Trainee

Year	Average Hourly Salary[a]	Hours Per Trainee	Number of Trainees	Estimated Cost to ESC	Average Cost Per Trainee
1967	$3.05	5	126	$1,921.50	$15.00
1968	3.23	5	87	1,405.00	16.15
1969	3.43	5	80	1,372.00	17.15
1970	3.63	5	151	2,740.65	18.15
1971	3.85	5	112	2,156.00	19.25
1972	4.08	5	105	2,142.00	20.40
1973	4.33	5	44	952.60	21.65

[a]The average hourly salary was based on an estimate by the Manager of the Rockingham office of the Employment Security Commission.

For each fiscal year which is included in this study, the foregone earnings model described herein was used in computing the salary the graduates theoretically gave up to participate in the training.

As pointed out earlier, Rapuano assumed that the employed would have worked 80 percent of the time covered by the training period and the unemployed would have remained unemployed for the entire training period. Smith used an approach that assumed that the employed and the unemployed would have worked a portion of the time covered by the training period.

Smith defined one's status as either employed or unemployed. Based on that assumption, he argued that one's present status, i.e., employed or unemployed, was determined by one's previous status; conversely, one's present status will determine one's future status. There are statistical probabilities, based on education, sex, race, and age, of moving from one status to the other. The shift was computed by assuming the conditions of a first-order Markov chain.[13]

Included in the assumption were the following: 1. The probability of becoming unemployed (Peu) was defined as "...the inverse of the mean duration of unemployment."[14] 2. The probability of becoming employed was computed by weighting the race, sex, and age characteristics of trainees to arrive at a computed composite unemployment rate. Since the trainee characteristics made this group of persons twice as susceptible to unemployment as the average, the computed rate was doubled for each fiscal year.[15]

The matrix Smith used to compute the time one could expect to be employed during the training period was:

$$\begin{bmatrix} E_t \\ U_t \end{bmatrix} = \begin{bmatrix} (1\text{-Peu}) & \text{Pue} \\ \text{Peu} & (1\text{-Pue}) \end{bmatrix} X \begin{bmatrix} E_{t-1} \\ U_{t-1} \end{bmatrix}$$

E_t = The probability of being employed

U_t = The probability of being unemployed

E_{t-1} = The probability of being employed in the preceding period

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[13]Smith, op. cit., p. 42.

[14]Ibid., p. 49.

[15]Ibid., pp. 47-8.

U_{t-1} = The probability of being unemployed in the preceding period

Pue = The probability of moving from unemployment to employment

Peu = The probability of moving from employment to unemployment

The first-order Markov chain was expressed as:

$E_t = (1\text{-Peu})(E_{t-1}) + (Pue)(U_{t-1})$

$U_t = (Peu)(E_{t-1}) + (1\text{-Pue})(U_{t-1})$

The results of the computations of this matrix are presented in Tables 4-14 through 4-20. Table 4-21 presents in composite form the information from Tables 4-14 through 4-20, plus the computed unemployment rates which are explained later in the Chapter. The formulas above and the figures in Table 4-21 will enable one to compute the steady state status and percentage of time the trainees could have expected to work, two other variables which Smith computed in determining foregone earnings.

After computations described above were made, it was then possible to estimate the earnings foregone per graduate for each of the fiscal years. The computations were made as follows:

1. The mean of the graduates' last hourly earnings before training was determined for the year.

2. The mean was increased by the average hourly salary increase in North Carolina for applicable year.

3. The resulting adjusted hourly wage was multiplied by 8 hours, 22 days, the number of months in the training program, and the percentage of time a trainee could have expected to work during the training period.

For example, if the last mean hourly wage were $1.05, the average raise in North Carolina during the year the training took place was 6

TABLE 4-14

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1967

Month	Proportion Employed	Proportion Unemployed
Initial State	.11	.89
End of:		
First Month	.29	.71
Second Month	.42	.58
Third Month	.52	.48
Fourth Month	.60	.40
Fifth Month	.66	.34
Sixth Month	.70	.30
Seventh Month	.71	.27
Eighth Month	.75	.25
Ninth Month	.77	.23
Tenth Month	.79	.21
Ten-Month Training Period Average	.62	.38
Steady State Status	.83	.17

percent, the program lasted for eight months, and a trainee could have expected to work 72 percent of the time during the course of the training period, the foregone earnings would be computed as follows:

Hourly rate: $1.05

Added to hourly rate: ($1.05) x (.06) = $.09

TABLE 4-15

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1968

Month	Proportion Employed	Proportion Unemployed
Initial State:	.13	.87
End of:		
First Month	.41	.59
Second Month	.57	.43
Third Month	.67	.33
Fourth Month	.73	.27
Fifth Month	.77	.23
Sixth Month	.79	.21
Seventh Month	.80	.20
Eighth Month	.81	.19
Ninth Month	.81	.19
Nine-Month Training Period Average	.71	.29
Steady State Status	.81	.19

Adjusted hourly rate: $1.05 + $.09 = $1.14

Foregone earnings = ($1.14)(8)(22)(8)(.72) = $1,156

The computed foregone earnings was added to the subtotal difference in the training costs less transfer payments to arrive at the total cost of training per graduate.

The earnings differential. The earnings differential is the difference between a graduate's income after training and the income he

TABLE 4-16

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1969

Month	Proportion Employed	Proportion Unemployed
Initial State:	.05	.95
End of:		
First Month	.29	.71
Second Month	.46	.54
Third Month	.58	.42
Fourth Month	.66	.34
Fifth Month	.72	.28
Sixth Month	.76	.24
Seventh Month	.79	.21
Eighth Month	.81	.19
Eight-Month Training Period Average	.63	.37
Steady State Status	.85	.15

could have expected to earn had he not participated in the training. The earnings differential was computed on the basis of a trainee's working 80 percent of the time covered by the training period. While the estimated steady state, as computed by Smith's model, fluctuated from 67 to 85 percent, (see Tables 4-14 through 4-21), the mean steady state was approximately 80 percent.

The earnings differential computations were made in the following manner:

TABLE 4-17

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1970

Month	Proportion Employed	Proportion Unemployed
Initial State:	.01	.99
End of:		
First Month	.41	.59
Second Month	.57	.43
Third Month	.63	.37
Fourth Month	.66	.34
Fifth Month	.67	.33
Sixth Month	.67	.33
Seventh Month	.67	.33
Eighth Month	.67	.33
Eight-Month Training Period Average	.62	.38
Steady State Status	.67	.33

1. An hourly rate for graduates was determined, based on the average of the mean hourly rate on the first job after training and the mean hourly salary six months after beginning work.

2. The hourly rate above was multiplied by 2,080 hours and 80 percent, to get the potential income after training.

3. The mean last hourly income for graduates before training was increased by the average salary increase in North Carolina during the

TABLE 4-18

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1971

Month	Proportion Employed	Proportion Unemployed
Initial State:	.098	.902
End of:		
First Month	.31	.69
Second Month	.46	.54
Third Month	.56	.44
Fourth Month	.63	.37
Fifth Month	.68	.32
Sixth Month	.71	.29
Seventh Month	.73	.27
Seven-Month Training Period Average	.58	.42
Steady State Status	.78	.22

year of training and the year after training. The adjusted hourly salary was multiplied by 2,080 hours and 80 percent.

4. The income in (3) above was subtracted from the income in (2) above. For each year, the difference was a positive figure (see Tables 4-6 through 4-12).

The present values of the earnings differentials at 10 percent and at 5 percent are given in Tables 4-22 through 4-28. Table 4-29 gives the cost and present values, along with the benefit-cost ratios and internal rates of return for each year.

TABLE 4-19

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1972

Month	Proportion Employed	Proportion Unemployed
Initial State:	.06	.94
End of:		
First Month	.43	.57
Second Month	.61	.39
Third Month	.71	.29
Fourth Month	.75	.25
Fifth Month	.77	.23
Sixth Month	.78	.22
Seventh Month	.79	.21
Seven-Month Training Period Average	.69	.31
Steady State Status	.79	.21

The benefit-cost ratios at the 10 percent level ranged from a low of .78 to 1 to a high of 6.00 to 1. At 5 percent, the range was from a low of 1.25 to 1 to a high of 9.72 to 1. Internal rates of return varied from a low of 8 percent to a high of 63 percent.

The computed unemployment rates. The computation of a rate of unemployment for the trainees was essential to the determination of training costs. The purpose in making the computation was to estimate the probability of the groups' having found employment had they not elected to participate in the training.

TABLE 4-20

Trainee Estimated Labor Force Status During the Period of Manpower Development Training, Fiscal Year 1973

Month	Proportion Employed	Proportion Unemployed
Initial State	0	100%
End of:		
First Month	.33	.67
Second Month	.52	.48
Third Month	.63	.37
Fourth Month	.69	.31
Fifth Month	.72	.28
Sixth Month	.74	.26
Seventh Month	.76	.24
Eighth Month	.77	.23
Ninth Month	.78	.22
Nine-Month Training Period Average	.66	.34
Steady State Status	.78	.22

The unemployment rates for the various demographic groups in the applicable fiscal year were weighted by sex, age, and race to arrive at a composite computed unemployment rate. More than 50 percent of the trainees each year had less than twelve years of school (See Appendix I). The unemployment rate of high school dropouts was twice that of

TABLE 4-21

Computed Amount of Time Trainees Could Have Expected to be Employed During Training Period, 1967-1973

Year	Program Length	Average Length Unemp.	Percent Unemployed Each Month (Pue)	Computed Unempl. Rate	Percent Unempl. When Tng. Began	Percent Employed When Tng. Began	Steady State: Emp. / Unemp.	Percent of Expected Employment During Tng.
1967	10 mo.	5 mo.	20%	19%	89%	11%	83% / 17%	62%
1968	9 mo.	3 mo.	33%	21%	87%	13%	81% / 19%	71%
1969	8 mo.	4 mo.	25%	26%	95%	5%	85% / 15%	63%
1970	8 mo.	2.5 mo.	40%	41%	99%	1%	67% / 33%	62%
1971	7 mo.	4 mo.	25%	26%	90.2%	9.8%	78% / 22%	58%
1972	7 mo.	2.5 mo.	40%	24%	94%	6%	79% / 21%	69%
1973	9 mo.	3 mo.	33%	26%	100%	0%	78% / 22%	66%

TABLE 4-22

Increase in Lifetime Earnings of 1967 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 968.18	1.05	$ 1,014.29
2	1.21	880.17	1.10	968.18
3	1.33	800.75	1.16	918.10
4	1.46	729.45	1.22	872.95
5	1.61	661.49	1.28	832.03
6	1.77	601.69	1.34	794.78
7	1.95	546.15	1.41	755.32
8	2.14	497.66	1.48	719.59
9	2.36	451.27	1.55	687.10
10	2.59	411.20	1.63	653.37
11	2.85	373.68	1.71	622.81
12	3.14	339.17	1.80	591.67
13	3.45	308.70	1.89	563.49
14	3.80	280.63	1.98	537.88
15	4.18	254.78	2.08	512.02
16	4.59	230.03	2.18	488.53
17	5.05	210.89	2.29	465.07
18	5.56	191.55	2.41	441.91
19	6.11	174.30	2.53	420.95
20	6.72	158.42	2.65	401.89
21	7.40	143.92	2.79	381.72
22	8.14	130.84	2.93	363.48
23	8.95	118.99	3.07	346.91
24	9.85	108.12	3.23	320.72
25	10.83	98.34	3.39	314.16
26	11.92	89.35	3.56	299.16
27	13.11	81.24	3.73	285.52
28	14.42	73.86	3.92	271.68
29	15.86	67.15	4.12	258.50
30	17.45	61.03	4.32	246.53
Total Present Value		$10,043.00		$16,359.31

[a] $\$1,065\ (1.10)^{-t}$

[b] $\$1,065\ (1.05)^{-t}$

TABLE 4-23

Increase in Lifetime Earnings of 1968 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 317.27	1.05	$ 332.38
2	1.21	288.43	1.10	317.27
3	1.33	262.41	1.16	300.86
4	1.46	239.04	1.22	286.07
5	1.61	216.77	1.28	272.66
6	1.77	197.18	1.34	260.45
7	1.95	178.97	1.41	247.52
8	2.14	163.08	1.48	235.81
9	2.36	247.08	1.55	225.16
10	2.59	134.75	1.63	214.11
11	2.85	122.46	1.71	204.09
12	3.14	111.15	1.80	193.89
13	3.45	101.16	1.89	184.66
14	3.80	91.84	1.98	176.26
15	4.18	83.49	2.08	167.79
16	4.59	76.03	2.18	160.09
17	5.05	69.11	2.29	152.40
18	5.56	62.77	2.41	144.81
19	6.11	57.12	2.53	137.94
20	6.72	51.93	2.65	131.70
21	7.40	47.16	2.79	125.09
22	8.14	42.87	2.93	119.11
23	8.95	38.99	3.07	113.68
24	9.85	35.43	3.23	108.05
25	10.83	32.23	3.39	102.95
26	11.92	29.28	3.56	98.03
27	13.11	26.62	3.73	93.57
28	14.42	24.20	3.92	89.03
29	15.86	22.01	4.12	84.71
30	17.45	20.00	4.32	80.79
Total Present Value		$3,291.63		$5,360.93

[a] $349 $(1.10)^{-t}$

[b] $349 $(1.05)^{-t}$

TABLE 4-24

Increase in Lifetime Earnings of 1969 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 801.82	1.05	$ 840.00
2	1.21	728.93	1.10	801.82
3	1.33	663.16	1.16	760.34
4	1.46	604.11	1.22	722.95
5	1.61	547.83	1.28	689.06
6	1.77	498.31	1.34	658.21
7	1.95	452.31	1.41	625.53
8	2.14	412.15	1.48	595.95
9	2.36	373.73	1.55	569.03
10	2.59	340.54	1.63	541.10
11	2.85	309.47	1.71	515.79
12	3.14	280.89	1.80	490.00
13	3.45	255.65	1.89	466.67
14	3.80	232.11	1.98	445.45
15	4.18	211.00	2.08	424.04
16	4.59	192.16	2.18	404.59
17	5.05	174.65	2.29	385.15
18	5.56	158.63	2.41	365.98
19	6.11	144.35	2.53	348.62
20	6.72	131.25	2.65	332.83
21	7.40	119.19	2.79	316.13
22	8.14	108.35	2.93	301.02
23	8.95	98.55	3.07	287.30
24	9.85	89.54	3.23	273.07
25	10.83	81.44	3.39	260.18
26	11.92	73.99	3.56	247.75
27	13.11	67.28	3.73	236.46
28	14.42	61.17	3.92	225.00
29	15.86	55.61	4.12	214.08
30	17.45	50.54	4.32	204.17
Total Present Value		$8,318.71		$13,548.27

[a] $882 $(1.10)^{-t}$

[b] $882 $(1.05)^{-t}$

TABLE 4-25

Increase in Lifetime Earnings of 1970 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 454.55	1.05	$ 476.19
2	1.21	413.22	1.10	454.55
3	1.33	375.94	1.16	431.03
4	1.49	342.47	1.22	409.84
5	1.61	310.56	1.28	390.63
6	1.77	282.49	1.34	373.13
7	1.95	256.41	1.41	354.61
8	2.14	233.64	1.48	337.84
9	2.36	211.86	1.55	322.58
10	2.59	193.05	1.63	306.75
11	2.85	175.44	1.71	292.40
12	3.14	159.24	1.80	277.78
13	3.45	144.93	1.89	264.55
14	3.80	131.58	1.98	252.53
15	4.18	119.63	2.08	240.38
16	4.59	108.93	2.18	229.36
17	5.05	99.01	2.29	218.34
18	5.56	89.93	2.41	207.47
19	6.11	81.83	2.53	197.63
20	6.72	74.40	2.65	188.68
21	7.40	67.57	2.79	179.21
22	8.14	61.43	2.93	170.65
23	8.95	55.87	3.07	162.87
24	9.85	50.76	3.23	154.80
25	10.83	46.17	3.39	147.49
26	11.92	41.95	3.56	140.45
27	13.11	38.14	3.73	134.05
28	14.42	34.67	3.92	127.55
29	15.86	31.53	4.12	121.36
30	17.45	28.65	4.32	115.74
Total Present Value		$4,715.84		$7,680.44

[a] $500 $(1.10)^{-t}$

[b] $500 $(1.05)^{-t}$

TABLE 4-26

Increase in Lifetime Earnings of 1971 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 106.36	1.05	$ 114.43
2	1.21	96.69	1.10	106.36
3	1.33	87.97	1.16	100.86
4	1.46	80.14	1.22	95.90
5	1.61	72.67	1.28	91.41
6	1.77	66.10	1.34	87.31
7	1.95	60.00	1.41	82.98
8	2.14	54.67	1.48	79.05
9	2.36	49.58	1.55	75.48
10	2.59	45.17	1.63	71.78
11	2.85	41.05	1.71	68.42
12	3.14	37.26	1.80	65.00
13	3.45	33.91	1.89	61.90
14	2.80	30.79	1.98	59.09
15	4.18	27.99	2.08	56.25
16	4.59	25.49	2.18	53.67
17	5.05	23.17	2.29	51.09
18	5.56	21.04	2.41	48.55
19	6.11	19.15	2.53	46.25
20	6.72	17.41	2.65	44.15
21	7.40	15.81	2.79	41.94
22	8.14	14.37	2.93	39.93
23	8.95	13.07	3.07	38.11
24	9.85	11.88	3.23	36.22
25	10.83	10.80	3.39	34.51
26	11.92	9.82	3.56	32.87
27	13.11	8.92	3.73	31.37
28	14.42	8.11	3.92	29.85
29	15.86	7.38	4.12	28.40
30	17.45	6.70	4.32	27.08
Total Present Value		$1,103.47		$1,800.21

[a] $117 $(1.10)^{-t}$

[b] $117 $(1.05)^{-t}$

TABLE 4-27

Increase in Lifetime Earnings of 1972 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 362.73	1.05	$ 380.00
2	1.21	329.75	1.10	362.73
3	1.33	300.00	1.16	343.97
4	1.46	273.29	1.22	327.05
5	1.61	247.83	1.28	311.72
6	1.77	225.42	1.34	297.76
7	1.95	204.62	1.41	282.98
8	2.14	186.45	1.48	269.59
9	2.36	169.07	1.55	257.42
10	2.59	154.05	1.63	244.79
11	2.85	240.00	1.71	233.33
12	3.14	127.07	1.80	221.67
13	3.45	115.65	1.89	211.11
14	3.80	105.00	1.98	201.52
15	4.18	95.45	2.08	191.83
16	4.59	86.93	2.18	183.03
17	5.05	79.01	2.29	174.24
18	5.56	71.76	2.41	165.56
19	6.11	65.30	2.53	157.71
20	6.72	59.38	2.65	150.57
21	7.40	53.92	2.79	143.01
22	8.14	49.02	2.93	136.18
23	8.95	44.58	3.07	129.97
24	9.85	40.51	3.23	123.53
25	10.83	36.84	3.39	117.70
26	11.92	33.47	3.56	112.08
27	13.11	30.43	3.73	106.97
28	14.42	27.67	3.92	101.79
29	15.86	25.16	4.12	96.84
30	17.45	22.87	4.32	92.36
Total Present Value		$3,763.23		$6,129.01

[a] $399 $(1.10)^{-t}$

[b] $399 $(1.05)^{-t}$

TABLE 4-28

Increase in Lifetime Earnings of 1973 Graduates of Manpower Development Training Programs at Richmond Technical Institute

Period (t)	Ten Percent Discount Factor	Present Value of Increase[a] at 10%	Five Percent Discount Factor	Present Value of Increase[b] at 5%
1	1.10	$ 770.91	1.05	$ 807.62
2	1.21	700.83	1.10	770.62
3	1.33	637.59	1.16	731.03
4	1.46	580.82	1.22	695.08
5	1.61	526.71	1.28	662.50
6	1.77	479.10	1.34	632.84
7	1.95	434.87	1.41	601.42
8	2.14	396.26	1.48	572.97
9	2.36	359.32	1.55	547.10
10	2.59	327.41	1.63	520.25
11	2.85	297.54	1.71	495.91
12	3.14	270.06	1.80	471.11
13	3.45	245.80	1.89	448.68
14	3.80	223.16	1.98	428.28
15	4.18	202.87	2.08	407.69
16	4.59	184.75	2.18	388.99
17	5.05	167.92	2.29	370.31
18	5.56	152.52	2.41	351.87
19	6.11	138.79	2.53	335.18
20	6.72	126.19	2.65	320.00
21	7.40	114.59	2.79	303.94
22	8.14	104.18	2.93	289.42
23	8.95	94.75	3.07	276.22
24	9.85	86.09	3.23	262.54
25	10.83	78.30	3.39	250.15
26	11.92	71.14	3.56	238.20
27	13.11	64.68	3.73	227.35
28	14.42	58.81	3.92	216.33
29	15.86	53.47	4.12	205.83
30	17.45	48.60	4.32	196.30
Total Present Value		$7,998.03		$13,026.02

[a] $848 $(1.10)^{-t}$

[b] $848 $(1.05)^{-t}$

TABLE 4-29

Economic Effectiveness of Manpower Development Training Programs at Richmond Technical Institute, by Program and Year, Using Discount Factors of Ten Percent and Five Percent for the Period 1967-1973

Item	Years						
	1967	1968	1969	1970	1971	1972	1973
Cost	$ 1,682	$1,594	$ 1,564	$1,188	$1,436	$1,880	$ 3,268
Benefits per Year or Earnings Differential	1,065	349	882	500	117	399	848
Present Value at 10%	10,043	3,292	8,319	4,716	1,103	3,763	7,998
Present Value at 5%	16,359	5,361	13,548	7,680	1,800	6,129	13,026
Benefit-Cost Ratio at 10%	6.00/1	2.07/1	5.26/1	4.98/1	.78/1	2.00/1	2.45/1
Benefit-Cost Ratio at 5%	9.72/1	3.36/1	8.66/1	6.46/1	1.25/1	3.26/1	3.98/1
Internal Rate of Return	63%	22%	56%	42%	8%	21%	26%

graduates.[16] Therefore, the computed unemployment rate each year was doubled.

COMPARISON OF TRAINEE CHARACTERISTICS

The programs at Richmond Technical Institute had a disproportionately high percentage of males in comparison to the national experience. In 1967, the first year of Manpower Training at Richmond Technical Institute, 50.8 percent of the trainees were male, while the national percentage was 56.8. From 1968 through 1973, the percentage of males in the programs at Richmond Technical Institute ranged from 79.3 percent to 100 percent, while the national percentages of males ranged from 55.4 percent to 63.2 percent. For the period of the study, 85 percent of the trainees at Richmond Technical Institute were males, while the national figure was 59.3 percent males participating in the training.

The enrollment percentages by race given below by year have the Institute's figures first and the national figures second: 1969, Black, 72.5 and 39.7 percent; White, 27.5 and 55.9 percent; 1970, Black, 45.0 and 36.0 percent; White, 47.7 and 59.2 percent; 1971, Black, 43.8 and 39.3 percent; White, 46.4 and 55.6 percent; 1972, Black, 61.9 and 33.1 percent; White, 38.1 and 61.2 percent; 1972, Black, 63.6 and 30.1 percent; White, 36.4 and 65.8 percent.

For the period 1969 through 1973, the trainees at Richmond Technical Institute were 54.5 percent Black, 41.0 percent White, and 4.5 percent "Other". Nationally for this period, the percentage of trainees by

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[16]Piore, Michael. "On-The-Job Training of Disadvantaged Workers," Public-Private Manpower Policies (Industrial Relations Research Association Series, 1969.), pp. 101-132.

race was 35.8 percent Black, 59.3 percent White, and 4.9 percent other races.

A comparison of trainees by education finds those selected for training at Richmond Technical Institute less well-educated than the trainees nation-wide for the same period. The percentage of those selected for training with an education under eight years ranged from 4.4 percent to 17.2 percent, with the average for the period covered by the study being 11.5 percent at Richmond Technical Institute (see Appendix I). Nationally, the percentage of trainees with less than an eighth grade education ranged from 3.1 to 9.2 and averaged 6.4 percent for the period covered by the study (see Appendix H).

The percentage of those with an eighth grade education ranged from 7.8 to 16.1 percent at Richmond Technical Institute and averaged 11.2 percent. Nationally, the range for this level of education was 4.7 percent to 10.7 percent, declining each year, and averaged 8.1 percent.

Those with an education between grades nine to eleven ranged from 29.9 percent to 46.3 percent at Richmond Technical Institute and averaged 41.8 percent. Nationally, the range for this level of education was from 28.6 to 40.6 and averaged 36.3 percent.

Those with a twelfth grade education ranged from 27.5 percent to 38.6 percent at Richmond Technical Institute and averaged 32.2 percent, or just under one third of the total enrollment for the period covered by the study. Nationally, the range was from 34.7 percent to 53.6 percent and averaged 43.1 percent.

At Richmond Technical Institute, the enrollment by those with an education beyond the twelfth grade ranged from 2.0 percent to 8.9 percent and averaged 3.3 percent of the enrollees. Nationally, the enrollment

for this group ranged from 4.5 percent to 10 percent and averaged 6.1 percent, almost twice the percentage for Richmond Technical Institute.

The educational level of trainees at the lower grades was larger than the national average for the same period. As the number of years of education increased, the percentage generally was less favorable for the enrollees at Richmond Technical Institute than for the national averages, with 64.5 percent of the local trainees having less than a twelfth grade education, compared to 50.8 percent of the trainees nation-wide at the same educational level.

The unemployment rates in the tri-county area (see Table 4-3), coupled with the comparative low educational level of the local trainees lend a degree of validity to the computed unemployment rates (see Table 4-21) which were derived from the use of Smith's model to compute the unemployment rate of the trainees.

The validity of the computed unemployment rate is further increased by the fact that the number of Blacks trained locally was approximately 50 percent greater comparatively than was the case for the national experience. The combination of low educational level of the local trainees, the higher percentage of Blacks trained locally, and the higher unemployment rates of Blacks (see Appendix J), tend to verify the computed unemployment rates in Table 4-3.

Nationally, 13.6 percent of the trainees from 1967 through 1973 were welfare recipients; locally, only 2.1 percent of the trainees were welfare recipients. The average percentage of trainees who had been receiving unemployment compensation nationally was 9.5 percent and 27.0 percent locally.

Paying back training costs. Table 4-30 gives the estimated federal income taxes paid by graduates over a five-year period: the year before training, the year of training, and the three years following the completion of training. The average number of dependents per enrollee each year was less than two. Taxes were figured on the basis of deductions for three persons.

The extimate of taxes paid the year before training was made as follows: the mean last hourly income of the graduates before training was assumed to be their average hourly income for the entire preceding year. This salary was multiplied by 2,080 hours and the computed percentage of time the trainees could have expected to work during the year. It was assumed that the same expectation regarding the probability of employment would have applied the year before training, as well as the year of training.

The estimate of taxes paid the year in which the training took place assumed no taxable income was earned until the completion of the training. The trainees were given one month to find a job, a fact which is reflected in the computations. No income was computed for the first month following the completion of training.

Flores[17] reported that within two weeks 43 percent of the graduates in his study were working, and within eight weeks, all who were willing to work had found a job. Since the time between the completion of training and the first job was not researched, this researcher decided to use a one-month period as job-hunting time by the graduates.

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[17]Flores, Froilan. "An Historical and Cost Analysis of Manpower Development Training Act Programs in the Washoe County (Reno) School District." (Ann Arbor: University Microfilms, 1968.), p. 116.

TABLE 4-30

Federal Income Taxes Paid by Graduates of Manpower Development Training Programs at Richmond Technical Institute, Giving the Estimated Taxes Paid the Year Before the Beginning of Training, the Year of Training, and the Three Years Following Completion of Training, and the Total Taxes Paid the First Three Years After Completing Training

Year	Year Before Training (a)	(b)	Year of Training (a)	(b)	Year After Training (a)	(b)	2 Years After Training (a)	(b)	3 Years After Training (a)	(b)	Taxes Paid in 3 Years[c]	Gov't Cost Per Grad.	Percent of Gov't. Cost Repaid in 3 Years
1967	$1,362	-0-	$ 313	-0-	$3,892	$226	$4,224	$279	$4,467	$298	$ 803	$1,682	47.7
1968	2,084	-0-	584	-0-	3,915	234	4,234	268	4,467	200	702	1,594	44.0
1969	1,713	-0-	1,188	-0-	4,752	375	4,879	260	5,143	310	927	1,564	59.3
1970	2,355	$9	1,167	-0-	4,900	268	5,364	339	5,649	378	985	1,188	82.9
1971	2,499	-0-	1,598	-0-	5,210	319	5,775	395	6,896	554	1,268	1,436	88.3
1972	2,958	-0-	1,711	-0-	5,693	385	7,054	577	7,445	635	1,597	1,880	84.9
1973	2,621	-0-	834	-0-	5,596	371	5,903	413	6,231	458	1,242	3,268	38.0

[a]Earnings

[b]Taxes paid

[c]United States Master Tax Guide for the applicable year

If the programs ran an average of eight months, income for the year was computed for three months only. This could result in understating earnings if graduates normally located jobs and began work in less than a month after completing training. The mean first salary was multiplied by eight hours per day, twenty-two days per month, and the number of months to the end of the calendar year, less the one month used to find jobs.

To estimate earnings for the year after completing training, the mean first hourly income for the first six months after completing training was used, to the extent of six months. To this was added the mean hourly salary after six months. The remainder of the twelve months was included by using the computed mean hourly salary after one year for graduates for the year in question. The hourly rates were multiplied by eight hours, twenty-two days, and the number of months the rates applied.

In computing the estimated earnings in the second year after training, the mean hourly salary after one year on the job was used the first six months of the year. It was assumed that the average hourly raise in North Carolina was realized by the graduates at midyear. As before, the hourly rates were multiplied by eight hours, twenty-two days, and six months; the products from each half of the year were added together for the estimated annual income.

The third year's income was computed in the same way as the second year's income, adding the average increase in hourly wages at midyear to the hourly rate the second half of the previous year.

An average hourly raise of 5.5 percent was assumed for 1974, 1975, and 1976, in order to project the estimated earnings for those

years. The North Carolina Employment Security Commission, Raleigh, North Carolina, estimated the average raise in North Carolina in 1973 at 5.5 percent.

Table 4-30, referred to previously, gives the estimated percentage of the government's training cost per graduate repaid at the end of three years following the completion of training. The portion of the government's cost of training that was repaid after three years ranged from a low of 38.0 percent for the 1973 graduates to a high of 88.3 percent for the 1971 graduates. The estimate of the cost repaid assumed that without the training the graduates would have paid no taxes or a negligible amount of taxes. The estimated taxes paid the year before training amounted to only nine dollars for the 1970 graduates and zero for the other years.

Based on the results of the estimated taxes paid after training, as shown in Table 4-30, it is estimated that the pay-back period will average about four years. This is a significant variation from the usual expectation of a pay-back period of one year or less.

Summary. This section of the Chapter has been concerned with determining the cost-recovery period for expenditures each of the years 1967 through 1973 for Manpower Development Training in Richmond County, North Carolina.

The total cost of training per graduate was computed, after a rather lengthy treatment of the data. Transfer payments, foregone earnings, and the earnings differential were calculated for each year.

The model Smith developed was used, with modifications, in calculating the amount of time one could expect to be employed or unemployed, or the steady state.

A comparison of the local trainees was made to the trainees nation-wide, using the data in Appendixes H and I. The comparison revealed notable differences in some instances.

Estimates of earnings after training were made in order to estimate the amount of taxes paid. Earnings for three years following the completion of training were computed. It was learned that the percentage of the government's training costs repaid in increased taxes in three years varied from 38.0 percent to 88.3 percent, resulting in a significant variation from the usual pay-back period of one year.

SUMMARY

This Chapter has explained the treatment of the data which were collected for the study. Each of the four null hypotheses were tested in the order stated in Chapter I.

While the graduates of the training program realized increases in income in each of the years covered by the study, the increases were not significant each year. In 1971 and 1973, the graduates had no significant increase in salaries and in 1969 the salary increase was significant at the .05 level. In the other years studied, the salary increase was significant at the .01 level, or highly significant.

It was learned that significant decreases occurred in unemployment in the tri-county area in 1968 and 1972, following the completion of training in 1967 and 1971. In 1970, a significant increase in unemployment was observed. There were no significant changes in the other years.

No significant changes in the number of welfare cases in the tri-county area occurred during the period covered by the study.

This Chapter has also been concerned with determining how long it takes for the increased taxes paid by the graduates to repay the costs of training. Data were collected from the Manpower Administration of the United States Department of Labor, Washington, D. C., the Accountant for the North Carolina Department of Community Colleges, Raleigh, North Carolina, program audit reports, and individual trainees and their records.

Training costs, allowances paid, and the cost to the Employment Security Commission were determined for each program. Transfer payments were calculated and subtracted from the initial total above, and to the differences was added the earnings foregone per graduate.

Ralph Ely Smith developed a model for determining the amount of time one can expect to work, based on race, sex, age, and education. The model was used in developing data for the computations for foregone earnings.

The earnings differential was computed and used to estimate the increase in lifetime earnings for graduates, assuming a working life of thirty years after completing the training.

It was determined that the graduates, in three years following the completion of training, paid federal taxes ranging from a low of 38.0 percent of the training costs in 1973 to a high of 88.3 percent of the training costs in 1971.

CHAPTER V

ANALYSIS OF DATA: GRADUATES: EMPLOYERS: PROGRAMS

This Chapter contains an analysis of graduates' and employers' responses to questions in Appendixes F and C, respectively. Responses were tested several ways for both groups of respondents to identify significant differences in responses.

Graduates' responses were tested four ways: (1) All responses were tested to determine differences between answers given and expected; (2) Answers each year were compared to answers for all other years to identify differences; (3) Responses of all graduates of each program were tested against all other respondents to identify differences; and, (4) Responses each year were tested for differences between observed and expected responses.

Employers' responses were tested in three ways: (1) All answers were tested to determine whether or not there were significant differences in the observed and expected answers; (2) Answers from textile employers were compared to answers of other employers to determine whether or not there were significant differences; and, (3) Answers of textile employers were tested to determine whether or not there were significant differences in the reported and expected answers.

GRADUATES' RESPONSES

Of the 331 graduates who were found to reside in the tri-county area of the study and who were mailed Appendix A with the request for its

completion and return, 153 responded with completed questionnaires. Completed questionnaires were numbered consecutively as they were received from graduates.

When it was decided that no more responses would be received, the questionnaires which had been assigned a number divisible by five were pulled and the graduates contacted in person or by telephone. After the purpose of the instrument had been explained, graduates were asked to give a response to each statement. No effort was made to influence a graduate's response in any way. If a graduate was unwilling to give an answer, or if he was not sure of the response, "Undecided" was checked.

Analysis of Graduates' Responses

In the review of responses in this section of the Chapter, the statements in Appendix F will be analyzed consecutively. The statements will be written in the following manner: Statement 1, 8/10/12: "The School...problems." Written in this manner, the meaning is that for Statement 1, the graduates gave eight affirmative responses, ten responses were "Undecided," and twelve responses were negative. The consecutive listing of the statements and analysis follows:

> Statement 1, 28/2/0: "The school counselor was willing to help me with my personal problems."[1]

Except for the two "Undecided" responses, there was complete agreement that the counselor was helpful with personal problems.

> Statement 2, 30/0/0: "The hours (time of day) that the course was offered were fine with me."[2]

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[1]Minnesota State Department of Education. Evaluation - MDTA. St. Paul: State of Minnesota Department of Education, 1969. ERIC Document Number 045809; p. 62.

[2]Ibid.

There was unanimous agreement with this statement. The classes began at 8:00 A.M. and ended at 4:30 P.M., with thirty minutes for lunch. This time coincided fairly closely to the schedules of other family members and probably minimized transportation and child-care problems for trainees.

> Statement 3, 5/4/21: "There were not enough tools and equipment for all students; therefore, I did not get full benefit of training."[3]

Over two thirds of the graduates disagreed with this statement. The affirmative responses could have been caused by expectations of a full set of tools for each student, which was not the case.

> Statement 4, 27/1/2: "The location of the school was O. K. for me."[4]

There was nearly complete agreement that the location of the school was suitable. Had the classes been held elsewhere, similar responses would likely have resulted.

> Statement 5, 27/1/2: "If a friend wanted training, I would recommend the school."[5]

Ninety percent of the graduates said they would recommend the school to a friend. The nonaffirmative responses can be attributed to disillusionment either as to the training received or expectations of employers as to the level of ability a graduate should have.

> Statement 6, 17/8/5: "Most of the students in my class were smart enough to catch on to the course work."[6]

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[3]Ibid.

[4]Ibid.

[5]Ibid.

[6]Ibid.

The majority of the graduates felt the level of teaching was geared to the trainees' learning level. However, the number of nonaffirmative responses should be taken as an indication that the level of teaching was too high for some of the trainees. The level of instruction in each class should have been geared to the abilities of the trainees to learn.

> Statement 7, 17/6/7: "I thought that most of the students in my class were making a real effort to learn."[7]

While the majority of responses were affirmative, about one fourth indicated student apathy by their negative responses, while 20 percent of the graduates were noncommittal to this statement. If there was apathy, it could have been caused by disinterest in course content, lack of understanding of what was being taught, or disillusionment in the program.

> Statement 8, 15/5/10: "Most students tried to get jobs related to the type of training they had."[8]

While one half of the graduates agreed with the statement, a surprising one third disagreed. The implications of the negative responses are several: (1) graduates could not get training-related jobs and refused to leave the area; (2) graduates felt they had been trained for low-paying jobs and sought jobs with higher pay; (3) if graduates thought the statement meant the jobs should be very similar to the training, negative responses could have occurred.

Statement 9, 22/6/2: "The amount of allowances was fair."[9]

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[7]Ibid.

[8]Ibid.

[9]Ibid.

Over two thirds of the respondents felt the training and travel allowances were fair. It should be remembered that the respondents were graduates. While the number of trainees who dropped out was not researched, the termination notice frequently carried a notation indicating the allowance was too small to support the trainee and his family.

Statement 10, 22/7/1: "The teacher knew his subject."[10]

There was general agreement that the instructors were well-qualified in their fields. Only one negative response was received.

Statement 11, 19/7/4: "There was enough lab, shop, or practical application in the course."[11]

Almost two thirds of the graduates agreed with the statement; however, the seven who were undecided and the four who answered negatively should be a signal to review this aspect of each program.

Statement 12, 24/3/3: "The teacher was as fair as he could be."[12]

While 80 percent gave affirmative responses, the 20 percent nonaffirmative responses suggest there were instances of favoritism shown; however, it should not be assumed that the answers were without prejudice.

Statement 13, 6/0/24: "The teachers let the students 'fool around' too much."[13]

Generally, the graduates agreed that the instructors controlled the classroom. The affirmative answers could have been caused by expectations of stricter exercise of control.

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[10]Ibid., p. 63.

[11]Ibid.

[12]Ibid.

[13]Ibid.

Statement 14, 25/2/3: "The training prepared students for good paying beginning jobs with steady employment."[14]

While five sixths of the graduates agreed with the statement, 10 percent did not. The negative responses may have come from students who were dissatisfied with their jobs or who have had several jobs since completing the training.

Statement 15, 25/4/1: "The teacher gave enough individual help."[15]

Five sixths of the graduates agreed. The five nonaffirmative responses should be taken as a clue to review this aspect of instruction with instructors.

Statement 16, 28/1/1: "My opinions and suggestions were respected by the teacher."[16]

The instructors did an outstanding job of respecting individual student opinions. The lone negative response probably came from a graduate who wanted to monopolize the classroom discussions.

Statement 17, 23/2/5: "The teacher knew about area employers who might hire students."[17]

The respondents generally agreed that the instructors knew about local job possibilities. The negative responses may have come from graduates who had difficulty getting a job or who felt they should have been told privately about job possibilities.

Statement 18, 26/1/3: "The teacher did a good job in relating the training to the job."[18]

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[14]Ibid.

[15]Ibid.

[16]Ibid.

[17]Ibid.

[18]Ibid.

The instructors were effective in relating training to jobs. The three negative responses could reflect a lower level of training-job relationship than was expected by some trainees.

Statement 19, 27/1/2: "The teacher was able to make the students understand the subject matter."[19]

Ninety percent of the responses were affirmative. The two negative responses probably came from graduates who have experienced difficulty on the job.

Statement 20, 27/1/2: "I understood the grades given during the training well enough to know how I was doing."[20]

The grading system was generally understood by the graduates. The two who said they did not understand could have inquired and an explanation would have been made.

Statement 21, 24/4/2: "The teacher let the students know what he expected of them in the course."[21]

While 80 percent of the responses were affirmative, there were enough other responses to be a warning that more emphasis should be placed on explaining the goals and objectives of each program early in the course and regularly throughout the program.

Statement 22, 2/7/21: "The school did not enforce the rules fairly for all students."[22]

Over two thirds of the respondents disagreed with the statement. Interpretation of the negative statement could have resulted in misunderstanding and caused the two affirmative answers.

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[19]Ibid., p. 64.

[20]Ibid.

[21]Ibid.

[22]Ibid.

Statement 23, 4/8/18: "The penalties for breaking school rules are too strict."[23]

Sixty percent of the responses disagreed with the statement. Statements 13, 22, and 23, which dealt with discipline, received fairly uniform responses. This lends validity to each and supports the discipline exercised at the training facility.

Statement 24, 22/4/4: "The school does a good job of helping students get jobs after they finish their training."[24]

The number of affirmative answers confirmed the interest of the school in the students, even to the point of helping graduates locate jobs. The four "Undecided" and the four negative responses could have been caused by those graduates who expected a wider choice of jobs than was available. The interpretation made of "does a good job" probably decided the responses given.

Statement 25, 22/2/6: "I learned enough in the training to get the type of job I wanted."[25]

Over two thirds of the graduates responded in the affirmative. Unfortunately, the questionnaire was not designed to learn what kinds of jobs those who responded "Undecided" or "No" wanted. Not to be overlooked as a cause of the eight nonaffirmative responses is improper selection of trainees, although there are no data to support this possibility.

Statement 26, 22/6/2: "Employers are looking for people with my type of training."[26]

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[23]Ibid.

[24]Ibid.

[25]Ibid.

[26]Ibid.

The graduates generally agreed that there are jobs for one who completes the training. The negative responses could have come from graduates who were unwilling to relocate or who expected too high a beginning salary.

Statement 27, 22/4/4: "During training, I learned a lot of practical things I can use in everyday living."[27]

The responses were generally affirmative. This represents a desirable parallel benefit of the training. The eight nonaffirmative answers could have been caused by the way the statement was interpreted by the graduate.

Statement 28, 23/3/4: "The training and the people I met helped me grow as a person."[28]

Association with the people involved in the training helped develop personal aspects of the trainees. Negative responses to this statement are difficult to explain, but probably were given by the less successful graduates chosen to respond to Appendix F.

Statement 29, 4/4/22: "The training was not worth the time and effort it cost me."[29]

This statement was essentially a restatement of statements 27 and 28 and these responses tend to validate responses to those statements. Graduates do recognize and acknowledge the benefit received from Manpower Training.

Statement 30, 20/6/4: "I had a chance to visit the school before starting training."[30]

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[27]Ibid., p. 65.

[28]Ibid.

[29]Ibid.

[30]Ibid.

Two thirds of the responses were affirmative. The negative responses could have been caused by job commitments until training began or by difficulty in getting transportation to the school. There was no public transportation in the vicinity of the school.

> Statement 31, 20/6/4: "The school counselor talked with students only if they were failing or in serious trouble."[31]

The affirmative answers by two thirds of the graduates indicated that the counselor was used frequently in the role of a disciplinarian. The responses to the first statement in Appendix F conflict markedly with the responses to this statement.

If the counselor was used for discipline, counseling effectiveness may have been diminished. This matter should be analyzed for future programs and discipline removed from the counselor's area of responsibility.

> Statement 32, 8/6/16: "I was informed of additional training opportunities in my career."[32]

Over one half the graduates disagreed with this statement, while only eight, or just over 25 percent, agreed with it. A review of course outlines should reveal whether this was included as a part of instruction. Care should be taken to insure that in the future students receive this information, even though Manpower Training programs were meant to teach entry-level skills, not prepare students for continued skills.

> Statement 33, 4/5/21: "Students should not be given final progress reports or certificates of completion to show employers."[33]

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[31] Ibid.

[32] Ibid.

[33] Ibid.

Over two thirds of the respondents disagreed with this statement. They felt that final reports or certificates were needed for the job interview as proof of their training.

Statement 34, 21/4/5: "I feel I chose the right type of training."[34]

More than two thirds of the graduates agreed with the statement. The nine nonaffirmative answers indicate that there may have been less than maximum care taken in selecting trainees who could have best benefited from the training.

Statement 35, 16/7/7: "I think I need more training to get the type of job I was told I would be qualified for."[35]

Over one half the responding graduates felt they needed more training. Manpower Training programs were meant to give entry-level skills. Expectations of both graduates and employers for a higher level of skills could have caused the seven "Undecided" and seven negative responses. The number of nonaffirmative responses should lead to a review of program objectives, course outline, and material taught.

Statement 36, 16/8/6: "I am better now at basic skills like reading and math."[36]

Over one half of the respondents felt the remedial work benefited them. Some graduates felt the remedial work was a waste of their time (see Table 5-24). Those graduates probably responded negatively to this statement.

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[34]Ibid., p. 66.

[35]Ibid.

[36]Ibid.

The statements in Appendix F were comprised of seventeen dealing with Teaching and Counseling, ten dealing with Benefits to Students, six dealing with Facilities and Materials, and three dealing with Student Relations.

The statements which were concerned with Teaching and Counseling were numbered 1, 10, 12, 13, 15 through 25, 31, and 33. Responses to these statements supported the way the Teaching and Counseling were conducted, with the exception of responses to Statement 31. Responses to that statement indicated the counselor talked to students only if they were failing or were in serious trouble. The conflict between these responses and the responses to Statement 1 was pointed out.

The statements which were concerned with Benefits to Students were numbered 9, 14, 26 through 29, 32, and 34 through 36. Responses to these questions were supportive of Manpower Training programs with the possible exception of responses to Statement 32. If responses to Statement 32 are considered nonsupportive of Manpower Training, it should be remembered that the training was meant to teach entry-level skills.

The statements which dealt with Facilities and Materials were numbered 2 through 5, 11, and 30. The responses to all those statements were supportive of Manpower Training.

The statements which dealt with Student Relations were numbered 6, 7, and 8. While the majority of responses to each of these statements were affirmative, they were not overwhelmingly so. The affirmative responses totaled forty-nine for the three questions and the negative responses totaled twenty-two. Statements 6, 7, and 8 were concerned with the graduates' opinions of other students. They judged their peers very sternly.

Statistical Analysis of Graduates' Responses

The first statistical test made of the graduates' responses was to determine whether or not there were significant differences in the responses given and the expected responses. The results of that test are given in Table 5-1. There were highly significant differences (significant at the .01 level) to responses given in response to 35 of the 36 statements in Appendix F. Following the presentation of the different ways in which the responses were tested, some explanations for the possible causes of the differences are given.

TABLE 5-1

Chi-Square Test of the Significance of the Differences Between Responses of Graduates of Manpower Development Training Programs to Statements About Their Experiences as Program Trainees

Statement Number	x^2	Significant at Level: .05	.01	Statement Number	x^2	Significant at Level: .05	.01
1	30.34	Yes	Yes	19	46.34	Yes	Yes
2	53.34	Yes	Yes	20	46.34	Yes	Yes
3	1.04	No	No	21	66.34	Yes	Yes
4	46.34	Yes	Yes	22	68.01	Yes	Yes
5	50.34	Yes	Yes	23	68.34	Yes	Yes
6	45.34	Yes	Yes	24	72.00	Yes	Yes
7	22.34	Yes	Yes	25	54.68	Yes	Yes
8	23.68	Yes	Yes	26	45.01	Yes	Yes
9	55.01	Yes	Yes	27	55.34	Yes	Yes
10	36.34	Yes	Yes	28	46.67	Yes	Yes
11	68.34	Yes	Yes	29	49.01	Yes	Yes
12	40.34	Yes	Yes	30	29.34	Yes	Yes
13	37.68	Yes	Yes	31	38.34	Yes	Yes
14	42.68	Yes	Yes	32	42.34	Yes	Yes
15	36.01	Yes	Yes	33	65.00	Yes	Yes
16	38.34	Yes	Yes	34	45.01	Yes	Yes
17	14.34	Yes	Yes	35	30.34	Yes	Yes
18	46.34	Yes	Yes	36	45.34	Yes	Yes

The next statistical test of graduates' responses was a comparison of responses for each year to responses for all other years covered by the study. Tables 5-2 through 5-8 give the results of the comparison.

TABLE 5-2

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1967 Graduates to Responses of Other Graduates, 1968 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.09	No	No	19	4	.53	No	No
2	4	.09	No	No	20	4	.92	No	No
3	4	.44	No	No	21	4	.50	No	No
4	4	.09	No	No	22	4	1.47	No	No
5	4	4.19	No	No	23	4	4.75	No	No
6	4	3.97	No	No	24	4	3.45	No	No
7	4	.81	No	No	25	4	.11	No	No
8	4	4.33	No	No	26	4	8.78	No	No
9	4	.28	No	No	27	4	12.56	Yes	No
10	4	9.81	Yes	No	28	4	15.17	Yes	Yes
11	4	9.07	No	No	29	4	.52	No	No
12	4	1.81	No	No	30	4	6.33	No	No
13	4	.00	No	No	31	4	13.63	Yes	Yes
14	4	2.46	No	No	32	4	4.75	No	No
15	4	1.15	No	No	33	4	5.92	No	No
16	4	1.62	No	No	34	4	4.49	No	No
17	4	.81	No	No	35	4	.93	No	No
18	4	.89	No	No	36	4	.60	No	No

Of the responses received and compared as described above, no statement had a highly significant difference in the responses two years. Ten statements had a highly significant difference in one year only. While sixteen of the thirty-six statements had responses which were significantly different at the .05 level, all were different at that

TABLE 5-3

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1968 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	18.89	Yes	Yes	19	4	9.42	No	No
2	4	.00	No	No	20	4	9.42	No	No
3	4	6.75	No	No	21	4	.83	No	No
4	4	.36	No	No	22	4	.40	No	No
5	4	3.59	No	No	23	4	1.91	No	No
6	4	2.88	No	No	24	4	1.46	No	No
7	4	2.46	No	No	25	4	5.94	No	No
8	4	.75	No	No	26	4	4.73	No	No
9	4	.54	No	No	27	4	1.41	No	No
10	4	1.21	No	No	28	4	1.55	No	No
11	4	8.37	No	No	29	4	1.97	No	No
12	4	2.22	No	No	30	4	2.33	No	No
13	4	2.48	No	No	31	4	4.08	No	No
14	4	6.41	No	No	32	4	13.33	Yes	Yes
15	4	1.42	No	No	33	4	8.31	No	No
16	4	.23	No	No	34	4	1.00	No	No
17	4	6.03	No	No	35	4	2.93	No	No
18	4	9.38	No	No	36	4	.62	No	No

level in only one year. No statement was significantly different in more than one of the seven years covered by the study. For twenty statements, there were no significant differences when each year's responses were compared to the other years' responses. Responses for both 1970 and 1971 had no significantly different answers.

A third test of differences was the comparison of graduates' responses of each program compared to the answers of graduates of all other programs. This comparison included responses of graduates of more

TABLE 5-4

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1969 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.33	No	No	19	4	.51	No	No
2	4	30.19	Yes	Yes	20	4	2.34	No	No
3	4	22.95	Yes	Yes	21	4	.88	No	No
4	4	.51	No	No	22	4	.33	No	No
5	4	.51	No	No	23	4	2.36	No	No
6	4	3.53	No	No	24	4	5.66	No	No
7	4	1.34	No	No	25	4	2.74	No	No
8	4	2.30	No	No	26	4	1.68	No	No
9	4	.37	No	No	27	4	1.08	No	No
10	4	.16	No	No	28	4	1.00	No	No
11	4	2.20	No	No	29	4	6.65	No	No
12	4	1.21	No	No	30	4	2.29	No	No
13	4	.53	No	No	31	4	4.05	No	No
14	4	.92	No	No	32	4	2.29	No	No
15	4	.89	No	No	33	4	2.29	No	No
16	4	.34	No	No	34	4	3.93	No	No
17	4	1.42	No	No	35	4	4.03	No	No
18	4	.70	No	No	36	4	1.86	No	No

than one year in most cases. Vending Machine Repair, for example, was taught in five of the seven years covered by the study and at least one response was received from a graduate of that program for each year the program was offered. This afforded a cross section of the opinions of graduates of several years. Welding was taught only once and such a cross section was not possible.

Tables 5-9 through 5-16 present the results of the chi-square test of the differences in the responses of program graduates to all

TABLE 5-5

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1970 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.77	No	No	19	4	5.57	No	No
2	4	.00	No	No	20	4	5.57	No	No
3	4	.54	No	No	21	4	.61	No	No
4	4	3.47	No	No	22	4	1.16	No	No
5	4	1.21	No	No	23	4	3.66	No	No
6	4	8.34	No	No	24	4	2.57	No	No
7	4	1.69	No	No	25	4	1.53	No	No
8	4	.84	No	No	26	4	3.95	No	No
9	4	1.33	No	No	27	4	1.76	No	No
10	4	4.20	No	No	28	4	3.05	No	No
11	4	3.40	No	No	29	4	1.76	No	No
12	4	.72	No	No	30	4	.62	No	No
13	4	1.27	No	No	31	4	2.29	No	No
14	4	.82	No	No	32	4	1.65	No	No
15	4	2.20	No	No	33	4	.15	No	No
16	4	.76	No	No	34	4	4.76	No	No
17	4	3.29	No	No	35	4	1.46	No	No
18	4	5.97	No	No	36	4	1.67	No	No

other graduates. Responses to two of the statements were significantly different at the .01 level in three of the programs. There were highly significant different responses to twenty other statements, two of them in two programs each, with the others being significantly different in but one program each. There were no significant differences to responses of five of the statements; eleven had differences significant at the .05 level only.

A fourth test was made to determine whether or not there were significant differences in the observed and expected responses for each

TABLE 5-6

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1971 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.23	No	No	19	4	.36	No	No
2	4	.00	No	No	20	4	4.59	No	No
3	4	1.43	No	No	21	4	3.74	No	No
4	4	.36	No	No	22	4	1.43	No	No
5	4	.36	No	No	23	4	2.22	No	No
6	4	2.55	No	No	24	4	1.20	No	No
7	4	1.14	No	No	25	4	1.21	No	No
8	4	6.67	No	No	26	4	1.21	No	No
9	4	.95	No	No	27	4	1.20	No	No
10	4	.90	No	No	28	4	1.00	No	No
11	4	1.93	No	No	29	4	1.20	No	No
12	4	2.07	No	No	30	4	.74	No	No
13	4	.63	No	No	31	4	.84	No	No
14	4	.66	No	No	32	4	1.67	No	No
15	4	.66	No	No	33	4	1.43	No	No
16	4	1.62	No	No	34	4	1.43	No	No
17	4	2.96	No	No	35	4	4.60	No	No
18	4	3.48	No	No	36	4	2.93	No	No

year. The results of the chi-square test to determine whether or not differences existed are presented in Tables 5-17 through 5-23. In 1970, responses to eight statements were different at the .05 level. All other years had no significant differences in responses given.

Table 5-1. Highly significant differences were computed for 35 of 36 responses to the statements when the responses given were compared to expected responses. The differences could have been caused by factors including disenchantment of graduates with jobs they received after

TABLE 5-7

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1972 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.33	No	No	19	4	.51	No	No
2	4	.00	No	No	20	4	.51	No	No
3	4	1.97	No	No	21	4	1.15	No	No
4	4	.51	No	No	22	4	5.04	No	No
5	4	.51	No	No	23	4	1.89	No	No
6	4	11.97	Yes	No	24	4	1.67	No	No
7	4	8.00	No	No	25	4	1.68	No	No
8	4	3.08	No	No	26	4	1.68	No	No
9	4	3.20	No	No	27	4	1.22	No	No
10	4	1.67	No	No	28	4	.94	No	No
11	4	1.65	No	No	29	4	1.09	No	No
12	4	1.15	No	No	30	4	.71	No	No
13	4	.53	No	No	31	4	1.33	No	No
14	4	.92	No	No	32	4	2.29	No	No
15	4	.89	No	No	33	4	1.97	No	No
16	4	.34	No	No	34	4	1.97	No	No
17	4	13.92	Yes	Yes	35	4	1.49	No	No
18	4	.70	No	No	36	4	1.71	No	No

completing training, both as to job responsibility and beginning rates of pay. Not to be overlooked as contributing factors to the differences are the wide range of job experience and education of the trainees, instructor's influence, both positive and negative, and negative attitude of some students. In a previous section of this Chapter, each statement in Appendix F was analyzed and reasons for responses were postulated.

While there are no data to support the statement concerning the negative attitude of some trainees, Manpower Training personnel have

TABLE 5-7

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1972 Graduates to Responses of Other Graduates, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.33	No	No	19	4	.51	No	No
2	4	.00	No	No	20	4	.51	No	No
3	4	1.97	No	No	21	4	1.15	No	No
4	4	.51	No	No	22	4	5.04	No	No
5	4	.51	No	No	23	4	1.89	No	No
6	4	11.97	Yes	No	24	4	1.67	No	No
7	4	8.00	No	No	25	4	1.68	No	No
8	4	3.08	No	No	26	4	1.68	No	No
9	4	3.20	No	No	27	4	1.22	No	No
10	4	1.67	No	No	28	4	.94	No	No
11	4	1.65	No	No	29	4	1.09	No	No
12	4	1.15	No	No	30	4	.71	No	No
13	4	.53	No	No	31	4	1.33	No	No
14	4	.92	No	No	32	4	2.29	No	No
15	4	.89	No	No	33	4	1.97	No	No
16	4	.34	No	No	34	4	1.97	No	No
17	4	13.92	Yes	Yes	35	4	1.49	No	No
18	4	.70	No	No	36	4	1.71	No	No

completing training, both as to job responsibility and beginning rates of pay. Not to be overlooked as contributing factors to the differences are the wide range of job experience and education of the trainees, instructor's influence, both positive and negative, and negative attitude of some students. In a previous section of this Chapter, each statement in Appendix F was analyzed and reasons for responses were postulated.

While there are no data to support the statement concerning the negative attitude of some trainees, Manpower Training personnel have

TABLE 5-8

Chi-Square Test of Differences in Responses of Graduates of Manpower Development Training Programs of Richmond Technical Institute, Comparing Responses of 1973 Graduates to Responses of Other Graduates, 1967 through 1972

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.36	No	No	19	4	4.59	No	No
2	4	.00	No	No	20	4	4.59	No	No
3	4	2.20	No	No	21	4	8.24	No	No
4	4	4.59	No	No	22	4	3.54	No	No
5	4	4.59	No	No	23	4	2.84	No	No
6	4	4.45	No	No	24	4	1.46	No	No
7	4	5.66	No	No	25	4	19.39	Yes	Yes
8	4	3.34	No	No	26	4	5.55	No	No
9	4	9.63	Yes	No	27	4	1.46	No	No
10	4	1.21	No	No	28	4	1.37	No	No
11	4	3.60	No	No	29	4	1.20	No	No
12	4	4.53	No	No	30	4	1.67	No	No
13	4	11.96	Yes	No	31	4	9.19	No	No
14	4	2.14	No	No	32	4	1.67	No	No
15	4	18.89	Yes	Yes	33	4	1.43	No	No
16	4	.45	No	No	34	4	21.67	Yes	Yes
17	4	.82	No	No	35	4	3.72	No	No
18	4	11.90	Yes	No	36	4	.84	No	No

discussed the defensive and aggressive nature of some of the trainees, and the researcher has seen personally such displays of emotion by the trainees. Such attitudes could only be expected to have an influence on other students around this kind of student.

Table 5-2 through Table 5-8. The statements in Appendix F were comprised of seventeen dealing with teaching and counseling, ten dealing with benefits to students, six dealing with facilities and materials, and three dealing with student relations. Tables 5-2 through 5-8 present the

TABLE 5-9

A Comparison of the Responses of General Office Clerk Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.23	No	No	19	2	.36	No	No
2	2	.00	No	No	20	2	.36	No	No
3	2	1.56	No	No	21	2	.36	No	No
4	2	.36	No	No	22	2	1.56	No	No
5	2	9.43	Yes	Yes	23	2	9.16	Yes	No
6	2	2.88	No	No	24	2	7.60	Yes	No
7	2	1.14	No	No	25	2	.58	No	No
8	2	3.34	No	No	26	2	12.33	Yes	Yes
9	2	.54	No	No	27	2	9.82	Yes	Yes
10	2	3.68	No	No	28	2	30.00	Yes	Yes
11	2	10.95	Yes	Yes	29	2	1.46	No	No
12	2	.83	No	No	30	2	6.85	Yes	No
13	2	30.00	Yes	Yes	31	2	13.34	Yes	Yes
14	2	4.23	No	No	32	2	9.63	Yes	Yes
15	2	1.22	No	No	33	2	6.08	Yes	No
16	2	18.26	Yes	Yes	34	2	8.31	Yes	No
17	2	1.14	No	No	35	2	4.60	No	No
18	2	2.08	No	No	36	2	4.08	No	No

chi-square test results of the differences in responses of a year to responses of graduates in other years covered by the study.

In 1970 and 1971, there were no responses which were significantly different from those given by graduates in the other years. In 1972, there was only one highly significant different response; there were two highly significant different responses in 1967, 1968, and 1969, and three in 1973. Overall there were ten responses for all years with highly significant different responses. Of those, six dealt with teaching and counseling, two with benefits to students, and two with facilities and materials.

TABLE 5-10

A Comparison of the Responses of Loom Fixer Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.33	No	No	19	2	.51	No	No
2	2	.00	No	No	20	2	.51	No	No
3	2	.81	No	No	21	2	8.73	Yes	No
4	2	.51	No	No	22	2	6.97	Yes	No
5	2	.51	No	No	23	2	2.36	No	No
6	2	3.56	No	No	24	2	1.67	No	No
7	2	6.12	Yes	No	25	2	14.08	Yes	Yes
8	2	1.31	No	No	26	2	1.31	No	No
9	2	5.84	No	No	27	2	.94	No	No
10	2	7.21	Yes	No	28	2	.94	No	No
11	2	1.09	No	No	29	2	1.09	No	No
12	2	3.74	No	No	30	2	.72	No	No
13	2	1.37	No	No	31	2	5.63	No	No
14	2	.90	No	No	32	2	2.29	No	No
15	2	4.92	No	No	33	2	1.97	No	No
16	2	.17	No	No	34	2	5.73	No	No
17	2	3.79	No	No	35	2	7.08	Yes	No
18	2	21.94	Yes	Yes	36	2	4.37	No	No

Differences in responses could have been caused by student expectations of training not like the training received, disappointment in the job or salary after training, or a feeling of frustration caused by the employer expecting a higher level of skills than the training gave the graduates.

Table 5-9 through Table 5-16. Tables 5-9 through 5-16 compared the responses of graduates of a given program title to all other graduates who completed Appendix E. The graduates selected to complete Appendix E represented at least one program in each year covered by the study.

TABLE 5-11

A Comparison of the Responses of Plumber Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	26.92	Yes	Yes	19	2	.24	No	No
2	2	.00	No	No	20	2	.24	No	No
3	2	8.14	Yes	No	21	2	.53	No	No
4	2	.24	No	No	22	2	.90	No	No
5	2	.24	No	No	23	2	1.03	No	No
6	2	1.64	No	No	24	2	2.43	No	No
7	2	1.07	No	No	25	2	1.22	No	No
8	2	1.66	No	No	26	2	.77	No	No
9	2	6.92	Yes	No	27	2	2.43	No	No
10	2	13.07	Yes	Yes	28	2	2.39	No	No
11	2	1.08	No	No	29	2	.78	No	No
12	2	.53	No	No	30	2	1.08	No	No
13	2	.96	No	No	31	2	1.89	No	No
14	2	.46	No	No	32	2	2.51	No	No
15	2	.44	No	No	33	2	.92	No	No
16	2	.17	No	No	34	2	.92	No	No
17	2	.64	No	No	35	2	1.89	No	No
18	2	.33	No	No	36	2	.88	No	No

Of ten programs offered, two were not represented in this comparison of answers. The programs not represented were Alteration Sewing and Maintenance Man, each program offered but once.

The distribution of the thirty graduates who completed Appendix E was as follows, by program:

9	Auto Mechanic
1	Air Condition Mechanic
3	General Office Clerk
2	Electrician
4	Loom Fixer
2	Plumber
8	Vending Machine Repair
1	Welder
30	Total

TABLE 5-12

A Comparison of the Responses of Welder Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	13.32	Yes	Yes	19	2	33.33	Yes	Yes
2	2	.00	No	No	20	2	33.33	Yes	Yes
3	2	8.34	Yes	No	21	2	.25	No	No
4	2	1.47	No	No	22	2	2.79	No	No
5	2	1.47	No	No	23	2	.70	No	No
6	2	4.93	No	No	24	2	1.02	No	No
7	2	.79	No	No	25	2	4.04	No	No
8	2	.79	No	No	26	2	4.04	No	No
9	2	4.07	No	No	27	2	.99	No	No
10	2	.37	No	No	28	2	.33	No	No
11	2	.60	No	No	29	2	1.02	No	No
12	2	9.31	Yes	Yes	30	2	4.13	No	No
13	2	9.31	Yes	Yes	31	2	4.14	No	No
14	2	13.77	Yes	Yes	32	2	4.13	No	No
15	2	38.24	Yes	Yes	33	2	8.34	Yes	No
16	2	.07	No	No	34	2	.44	No	No
17	2	5.06	No	No	35	2	.91	No	No
18	2	33.33	Yes	Yes	36	2	2.80	No	No

Of the thirty-six statements in Appendix E, there were significant differences in responses to thirty-one. Of those, differences for twenty were highly significant while the differences in the remaining eleven were significant at the .05 level.

There were highly significant differences in all programs. However, in the Vending Machine Repair, Electrician, and Auto Mechanic programs, there was only one response which was significantly different at the .01 level. Two responses were significantly different at the .01 level in the Loom Fixer, Plumber, and Air Condition Mechanic programs.

TABLE 5-13

A Comparison of the Responses of Air Condition Mechanic Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.08	No	No	19	2	33.33	Yes	Yes
2	2	.00	No	No	20	2	2.34	No	No
3	2	8.34	Yes	No	21	2	6.92	Yes	No
4	2	1.47	No	No	22	2	2.79	No	No
5	2	1.47	No	No	23	2	2.79	No	No
6	2	.79	No	No	24	2	.36	No	No
7	2	.79	No	No	25	2	4.04	No	No
8	2	.79	No	No	26	2	4.04	No	No
9	2	.38	No	No	27	2	1.47	No	No
10	2	3.58	No	No	28	2	.33	No	No
11	2	6.71	Yes	No	29	2	1.02	No	No
12	2	.25	No	No	30	2	.51	No	No
13	2	.41	No	No	31	2	.92	No	No
14	2	.20	No	No	32	2	.51	No	No
15	2	.19	No	No	33	2	5.05	No	No
16	2	.07	No	No	34	2	6.92	Yes	No
17	2	.32	No	No	35	2	.91	No	No
18	2	33.33	Yes	Yes	36	2	.92	No	No

In the General Office Clerk and Welder programs, there were nine and eight responses, respectively, which were significantly different at the .01 level.

A variety of reasons account for the differences in responses given by the graduates. Program differences, trainee expectations, program requirements, prior educational achievements, and instructors' attitude and effectiveness are but a few factors contributing to the differences in responses. Interpretations of the statements on the instrument could account for a portion of the differences. Manpower

TABLE 5-14

A Comparison of the Responses of Auto Mechanic Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.41	No	No	19	2	5.31	No	No
2	2	.00	No	No	20	2	1.43	No	No
3	2	3.01	No	No	21	2	2.22	No	No
4	2	.81	No	No	22	2	1.44	No	No
5	2	.81	No	No	23	2	2.03	No	No
6	2	2.58	No	No	24	2	.87	No	No
7	2	1.07	No	No	25	2	.92	No	No
8	2	2.85	No	No	26	2	.92	No	No
9	2	7.27	Yes	No	27	2	4.66	No	No
10	2	2.40	No	No	28	2	2.05	No	No
11	2	.07	No	No	29	2	2.50	No	No
12	2	.21	No	No	30	2	4.61	No	No
13	2	.15	No	No	31	2	.73	No	No
14	2	.76	No	No	32	2	2.85	No	No
15	2	4.08	No	No	33	2	1.02	No	No
16	2	2.79	No	No	34	2	2.06	No	No
17	2	5.65	No	No	35	2	5.47	No	No
18	2	1.98	No	No	36	2	11.75	Yes	Yes

Training was meant to give entry-level skills; trainees' expectations of a higher level of skills mastery could have contributed to differences in responses, also.

Table 5-17 through Table 5-23. Table 5-17 through 5-23 give the chi-square test results of the differences in responses between graduates of a particular year. In 1970, there were eight statements with responses which were significantly different at the .05 level. There were no significant differences between the responses of graduates for the other years, and no other significantly different responses in 1970.

TABLE 5-15

A Comparison of the Responses of Vending Machine Repair Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.77	No	No	19	2	1.21	No	No
2	2	.00	No	No	20	2	1.21	No	No
3	2	1.96	No	No	21	2	.80	No	No
4	2	3.54	No	No	22	2	6.18	Yes	No
5	2	.95	No	No	23	2	1.23	No	No
6	2	1.58	No	No	24	2	2.57	No	No
7	2	.76	No	No	25	2	3.95	No	No
8	2	9.87	Yes	Yes	26	2	3.09	No	No
9	2	1.33	No	No	27	2	1.76	No	No
10	2	3.97	No	No	28	2	3.33	No	No
11	2	3.55	No	No	29	2	1.29	No	No
12	2	2.73	No	No	30	2	6.44	Yes	No
13	2	1.27	No	No	31	2	.49	No	No
14	2	.82	No	No	32	2	.15	No	No
15	2	2.20	No	No	33	2	.54	No	No
16	2	.79	No	No	34	2	3.62	No	No
17	2	3.84	No	No	35	2	.05	No	No
18	2	1.69	No	No	36	2	2.12	No	No

The significant differences in 1970 occurred for the statements numbered 4, 8, 9, 21, 22, 31, 35, and 36. A major reason for the number of statements with significant differences in responses is that there were 151 trainees that year, the largest number of any of the other years covered by the study. In addition, there were eight 1970 graduates who responded to the instrument, further increasing the probability of differences occurring.

The lack of any significant differences in six out of seven years and the presence of only eight significantly different responses in one

TABLE 5-16

A Comparison of the Responses of Electrician Graduates with All Other Graduates of Manpower Development Training Programs at Richmond Technical Institute, 1967 through 1973

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	2	.08	No	No	19	2	.24	No	No
2	2	.00	No	No	20	2	.24	No	No
3	2	1.00	No	No	21	2	.47	No	No
4	2	.24	No	No	22	2	.90	No	No
5	2	.24	No	No	23	2	1.03	No	No
6	2	1.64	No	No	24	2	.78	No	No
7	2	1.68	No	No	25	2	1.03	No	No
8	2	2.14	No	No	26	2	1.03	No	No
9	2	.76	No	No	27	2	.78	No	No
10	2	.77	No	No	28	2	.65	No	No
11	2	1.24	No	No	29	2	.78	No	No
12	2	.53	No	No	30	2	2.51	No	No
13	2	19.29	Yes	Yes	31	2	1.89	No	No
14	2	.46	No	No	32	2	1.08	No	No
15	2	.44	No	No	33	2	.92	No	No
16	2	.17	No	No	34	2	1.79	No	No
17	2	.64	No	No	35	2	1.13	No	No
18	2	.33	No	No	36	2	1.31	No	No

year can be taken as evidence that the students each year communicated with each other and developed common expectations. The expectations varied from year to year as can be seen by the results given in Tables 5-2 through 5-8 and from program to program as evidenced by significant differences in Tables 5-9 through 5-16.

Table 5-1 further substantiates the argument that differences each year were minimized by the exchange of ideas among students as they attended class or conversed between classes. The results of the chi-square test of responses for all graduates in all years, as seen in Table

TABLE 5-17

Chi-Square Test of the Differences in Responses of 1967 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	1.88	No	No
2	4	.00	No	No	20	4	.00	No	No
3	4	.84	No	No	21	4	.00	No	No
4	4	.00	No	No	22	4	.00	No	No
5	4	.84	No	No	23	4	3.62	No	No
6	4	2.22	No	No	24	4	2.22	No	No
7	4	.84	No	No	25	4	.84	No	No
8	4	1.88	No	No	26	4	3.62	No	No
9	4	.84	No	No	27	4	2.22	No	No
10	4	2.22	No	No	28	4	3.62	No	No
11	4	1.88	No	No	29	4	2.22	No	No
12	4	.00	No	No	30	4	2.91	No	No
13	4	1.88	No	No	31	4	1.88	No	No
14	4	.84	No	No	32	4	2.91	No	No
15	4	.84	No	No	33	4	2.91	No	No
16	4	.84	No	No	34	4	3.41	No	No
17	4	1.88	No	No	35	4	5.00	No	No
18	4	.84	No	No	36	4	5.00	No	No

5-1 illustrates the lack of commonalty of thought about the items covered by the statements in Appendix E; hence, numerous highly significant differences in responses.

Mobility of Instructors

During the seven years covered by this study, ten different training programs were offered, some of them several times. Graduates of eight of the programs were selected to respond to the statements in Appendix E.

TABLE 5-18

Chi-Square Test of the Differences in Responses of 1968 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	3.01	No	No	19	4	3.01	No	No
2	4	.00	No	No	20	4	3.01	No	No
3	4	6.06	No	No	21	4	.00	No	No
4	4	.00	No	No	22	4	3.01	No	No
5	4	3.01	No	No	23	4	3.01	No	No
6	4	3.01	No	No	24	4	3.01	No	No
7	4	.00	No	No	25	4	3.01	No	No
8	4	3.01	No	No	26	4	6.06	No	No
9	4	3.01	No	No	27	4	.00	No	No
10	4	3.01	No	No	28	4	.00	No	No
11	4	3.01	No	No	29	4	3.01	No	No
12	4	3.01	No	No	30	4	6.06	No	No
13	4	3.01	No	No	31	4	3.01	No	No
14	4	6.06	No	No	32	4	.00	No	No
15	4	3.01	No	No	33	4	3.01	No	No
16	4	.00	No	No	34	4	.00	No	No
17	4	3.01	No	No	35	4	.00	No	No
18	4	3.01	No	No	36	4	6.06	No	No

Of the eight programs, Auto Mechanics had three different instructors; Vending Machine Repair, Electrician, and General Office Clerk each had two different instructors; and the remaining four programs each had one instructor.

The mobility of instructors was caused in large measure by the time lag between the completion of a program and the beginning of the same program again. The time lag can be as little as two months, but generally was at least several months in duration. Instructors could not wait indefinitely for a class to begin again, so they sought employment

TABLE 5-19

Chi-Square Test of the Differences in Responses of 1969 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	.00	No	No
2	4	.00	No	No	20	4	4.00	No	No
3	4	4.00	No	No	21	4	4.00	No	No
4	4	.00	No	No	22	4	4.00	No	No
5	4	.00	No	No	23	4	5.00	No	No
6	4	.00	No	No	24	4	2.00	No	No
7	4	.00	No	No	25	4	2.00	No	No
8	4	4.00	No	No	26	4	.00	No	No
9	4	4.00	No	No	27	4	4.00	No	No
10	4	4.00	No	No	28	4	4.00	No	No
11	4	4.00	No	No	29	4	5.00	No	No
12	4	.00	No	No	30	4	.00	No	No
13	4	1.33	No	No	31	4	.00	No	No
14	4	.00	No	No	32	4	.00	No	No
15	4	.00	No	No	33	4	2.00	No	No
16	4	.00	No	No	34	4	2.00	No	No
17	4	.00	No	No	35	4	.00	No	No
18	4	.00	No	No	36	4	2.00	No	No

elsewhere. Chances of a former instructor leaving his new job to return to the Manpower Training program for a short-term temporary job again were slim, so new instructors were usually hired.

A final observation about instructors concerns their background. The usual requirement was experience in the field one was to teach. While the instructors may have been excellent at their skill in the field, deficiencies in communications skills would have lessened their teaching effectiveness. However, no data exist to support this observation.

TABLE 5-19

Chi-Square Test of the Differences in Responses of 1969 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	.00	No	No
2	4	.00	No	No	20	4	4.00	No	No
3	4	4.00	No	No	21	4	4.00	No	No
4	4	.00	No	No	22	4	4.00	No	No
5	4	.00	No	No	23	4	5.00	No	No
6	4	.00	No	No	24	4	2.00	No	No
7	4	.00	No	No	25	4	2.00	No	No
8	4	4.00	No	No	26	4	.00	No	No
9	4	4.00	No	No	27	4	4.00	No	No
10	4	4.00	No	No	28	4	4.00	No	No
11	4	4.00	No	No	29	4	5.00	No	No
12	4	.00	No	No	30	4	.00	No	No
13	4	1.33	No	No	31	4	.00	No	No
14	4	.00	No	No	32	4	.00	No	No
15	4	.00	No	No	33	4	2.00	No	No
16	4	.00	No	No	34	4	2.00	No	No
17	4	.00	No	No	35	4	.00	No	No
18	4	.00	No	No	36	4	2.00	No	No

elsewhere. Chances of a former instructor leaving his new job to return to the Manpower Training program for a short-term temporary job again were slim, so new instructors were usually hired.

A final observation about instructors concerns their background. The usual requirement was experience in the field one was to teach. While the instructors may have been excellent at their skill in the field, deficiencies in communications skills would have lessened their teaching effectiveness. However, no data exist to support this observation.

TABLE 5-20

Chi-Square Test of the Differences in Responses of 1970 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	.00	No	No
2	4	.00	No	No	20	4	.00	No	No
3	4	6.75	No	No	21	4	12.92	Yes	No
4	4	12.91	Yes	No	22	4	12.92	Yes	No
5	4	.00	No	No	23	4	1.89	No	No
6	4	.00	No	No	24	4	4.44	No	No
7	4	7.53	No	No	25	4	1.89	No	No
8	4	9.77	Yes	No	26	4	.00	No	No
9	4	12.92	Yes	No	27	4	3.44	No	No
10	4	.00	No	No	28	4	.00	No	No
11	4	7.71	No	No	29	4	1.89	No	No
12	4	1.89	No	No	30	4	5.36	No	No
13	4	4.45	No	No	31	4	12.92	Yes	No
14	4	3.44	No	No	32	4	6.78	No	No
15	4	.00	No	No	33	4	4.38	No	No
16	4	.00	No	No	34	4	3.43	No	No
17	4	.00	No	No	35	4	9.73	Yes	No
18	4	.00	No	No	36	4	9.73	Yes	No

Table 5-24 presents in tabular form some of the expressions made in response to statements numbered thirty-seven through forty on Appendix E. The frequency of responses did not equal thirty because not all graduates responded to all these statements. Some responded to none, some responded to one or more, and some responded to all.

The responses to Statement 37 expressed a good feeling about the training and opportunities provided by it.

The responses to Statement 38 identified two major areas of concern: (1) remedial work was boring and not challenging and (2) student

TABLE 5-21

Chi-Square Test of the Differences in Responses of 1971 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	.00	No	No
2	4	.00	No	No	20	4	.00	No	No
3	4	.00	No	No	21	4	3.37	No	No
4	4	.00	No	No	22	4	.73	No	No
5	4	.00	No	No	23	4	.00	No	No
6	4	.00	No	No	24	4	.73	No	No
7	4	.00	No	No	25	4	.00	No	No
8	4	3.37	No	No	26	4	3.04	No	No
9	4	.00	No	No	27	4	.00	No	No
10	4	.00	No	No	28	4	.00	No	No
11	4	.00	No	No	29	4	.73	No	No
12	4	3.37	No	No	30	4	3.04	No	No
13	4	3.37	No	No	31	4	.73	No	No
14	4	.00	No	No	32	4	.73	No	No
15	4	.00	No	No	33	4	.73	No	No
16	4	.00	No	No	34	4	3.04	No	No
17	4	.00	No	No	35	4	3.04	No	No
18	4	.00	No	No	36	4	.00	No	No

interest was low, caused perhaps by the first observation.

Responses to Statement 39 revealed regret for not putting forth the best effort while training was underway. Of twenty-one responses, nineteen indicated laxity in either attendance or studies.

Statement 40 had a tie-in with Statement 38 in that two of the responses implied that care was not taken in trainee selection. Besides these negative remarks, seven trainees indicated that the training allowances should be increased. Only two graduates, in responding to Statement 9, answered negatively that the amount of allowances received was fair,

TABLE 5-22

Chi-Square Test of the Differences in Responses of 1972 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	.00	No	No
2	4	.00	No	No	20	4	.00	No	No
3	4	.00	No	No	21	4	.00	No	No
4	4	.00	No	No	22	4	8.00	No	No
5	4	.00	No	No	23	4	4.00	No	No
6	4	4.00	No	No	24	4	.00	No	No
7	4	4.00	No	No	25	4	.00	No	No
8	4	4.00	No	No	26	4	.00	No	No
9	4	4.00	No	No	27	4	4.00	No	No
10	4	.00	No	No	28	4	4.00	No	No
11	4	4.00	No	No	29	4	4.00	No	No
12	4	.00	No	No	30	4	1.33	No	No
13	4	4.00	No	No	31	4	4.00	No	No
14	4	.00	No	No	32	4	.00	No	No
15	4	.00	No	No	33	4	.00	No	No
16	4	.00	No	No	34	4	.00	No	No
17	4	8.00	No	No	35	4	4.00	No	No
18	4	.00	No	No	36	4	4.00	No	No

while six were undecided.

EMPLOYERS' RESPONSES

The employers of the 153 graduates who completed and returned their questionnaires were mailed a copy of Appendix C, accompanied by Appendix D. A second set of instruments was mailed to those employers who had not returned the completed instrument by the end of two weeks. After an additional week, those who had not yet responded were contacted in person or by telephone and the needed information was provided to the researcher.

TABLE 5-23

Chi-Square Test of the Differences in Responses of 1973 Graduates of Manpower Development Training Programs at Richmond Technical Institute, Comparing Responses to Statements on Appendix E

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	.00	No	No	19	4	3.04	No	No
2	4	.00	No	No	20	4	.00	No	No
3	4	3.01	No	No	21	4	3.04	No	No
4	4	3.04	No	No	22	4	3.04	No	No
5	4	3.04	No	No	23	4	3.04	No	No
6	4	.73	No	No	24	4	3.04	No	No
7	4	.73	No	No	25	4	3.04	No	No
8	4	.00	No	No	26	4	.73	No	No
9	4	3.04	No	No	27	4	.73	No	No
10	4	.00	No	No	28	4	3.04	No	No
11	4	.73	No	No	29	4	.00	No	No
12	4	3.01	No	No	30	4	.00	No	No
13	4	.73	No	No	31	4	.00	No	No
14	4	3.04	No	No	32	4	.00	No	No
15	4	3.04	No	No	33	4	.00	No	No
16	4	3.04	No	No	34	4	.00	No	No
17	4	.73	No	No	35	4	.73	No	No
18	4	3.04	No	No	36	4	3.04	No	No

The 153 graduates who completed and returned the questionnaire were employed by sixty-six employers in the tri-county area. The employers were grouped into the following categories, with the number of graduates employed in each category given alongside:

Textile	68 graduates
Railroad	2 graduates
Service Industries	
(a) Automotive related	15 graduates
(b) Food and Vending	12 graduates
(c) Retail sales	12 graduates
(d) Other	11 graduates
City and County Government	9 graduates

TABLE 5-24

The Frequency of Student Comments About Their Likes, Dislikes, and Things They Would Change About MDTA Training

Statement 37. The thing I liked best about my training was:

4	I like that type of work.
9	The shop work
3	Skill of the Instructor.
3	Concern of the Instructor.
6	Opportunity to change jobs.

Statement 38. The thing I liked least about my training was:

2	Reading and Math were too easy.
4	Remedial work was boring.
2	Math.
7	Lack of interest of some students.
1	Had wrong kind of counselor.

Statement 39. If I could take the MDTA training over, I would:

2	Take another kind of course.
7	Attend class regularly.
12	Study harder.

Statement 40. The one thing I would change in MDTA is:

1	Require 7th grade education for eligibility.
1	Choose interested enrollees.
7	Pay more allowance.
2	Work more hours in shop.
8	Screen candidates more carefully.
3	Have less book work in the beginning.
3	Make course longer.

Light Manufacturing	10 graduates
Construction.	7 graduates
All Other	7 graduates
Total	153 graduates

Analysis of Employers' Responses

In this section of the Chapter, responses of employers to the statements in Appendix C were reviewed and analyzed under three broad categories: (1) employers' evaluations of employee; (2) employers' expectations of employee; and, (3) your company and MDTA graduates. As the statements were reviewed, each statement was written followed by the employer responses, as 50/51/52, meaning 50 affirmative responses, 51 "Undecided" responses, and 52 negative responses.

Employers' evaluations of employee. A review and analysis of the statements which dealt with the employers' evaluations of the graduates follows:

> Statement 6, 105/23/25: "MDTA training has given adequate knowledge of the skills for the employee now holds."

Over two thirds of the employers answered affirmatively. One sixth of the employers answered negatively, and about one sixth were undecided. The program objectives and skills to be taught should be checked against industry recommendations to insure they agree. A portion of the negative responses was probably due to higher expectations of graduate skills than the training was intended to give.

> Statement 7, 29/17/107: "The training has been beneficial to this employee in promoting or transferring him to a new job."

Over two thirds of the responses were negative, indicating that either the training was ineffective or that MDTA graduates sought and found jobs with minimal promotion possibilities.

> Statement 8, 117/11/25: "This employee has good work practices on the job."

Over three fourths of the employers agreed that MDTA graduates have good work practices. While Statement 7 above left some doubt as to

the benefit of the training, Statement 17's responses were in the majority that MDTA graduates were better in their present jobs than other employees, indicating that the MDTA training was a positive influence for the graduates in their jobs.

> Statement 9, 80/12/61: "This employee's attendance record relative to absenteeism is better than average for your company."

Just over half the responses were affirmative and just over half were negative, indicating the graduates are typical when it comes to getting to work late.

> Statement 10, 117/10/26: "This employee's attendance record relative to tardiness is better than average for your company."

Over two thirds of the responses were affirmative. The graduates, as trainees, were required to be to class on time, or they were not paid for a full day's attendance. This practice, and company policy, may account for the low tardy rate of graduates.

> Statement 11, 90/10/53: "This employee willingly and conscientiously accepts direction and handles responsibility required by his job."

About 60 percent of the employers' responses were affirmative; however, the questionnaire did not attempt to compare this characteristic of trainees against other employees in similar jobs.

> Statement 12, 119/7/27: "This employee gets along well with other employees."

About three fourths of the responses were affirmative, while over 15 percent of the responses were negative. The responses did not indicate the cause of so many having difficulty in getting along with other employees. Poor attitudes, defensive postures, or complexes of many kinds could have caused difficulty in this area.

Statement 13, 112/19/22: "This employee gets along well with his supervisor."

Over 14 percent of the employers' responses were negative. The reason for this large number of graduates having difficulty in getting along with supervisors is not known. Such friction is not good for production nor for other inter-personal relations around these graduates and their supervisors.

Statement 14, 129/8/16: "His knowledge of tools and materials required for the job he holds is adequate by company standards."

Over 80 percent of the responses were affirmative. Less than 20 percent were negative and could be accounted for by higher employer expectations of graduate skills than the programs were intended to give.

Statement 15, 122/14/17: "He has self-confidence in performing his work."

About 80 percent of the responses were affirmative, but the amount of self-confidence gained by MDTA training and from pretraining experiences are not known. Neither was there any attempt to compare the self-confidence of MDTA graduates to other employees in similar jobs.

Statement 16, 42/34/77: "This employee is a better worker than the usual prospect referred to this company by the Employment Security Commission."

Over one half of the responses were negative. The motivation of the worker would not be dependent solely on whether or not he received MDTA training, but other factors: family, economic, and social are but three which could motivate graduates and nongraduates. In addition, non-graduates could have learned useful skills in other places which made them as valuable as graduates.

Statement 17, 85/12/56: "We consider this employee in his present job better than other employees performing similar work."

Over half the employers agreed with this statement. However, over one third of them disagreed. The responses to this statement demonstrated that Manpower Training graduates compared favorably with other employees in job performance.

Employers' expectations of employee. This section of the instrument dealt with possibilities for upgrading the employees in their present jobs or promotions to better paying jobs.

> Statement 18, 33 "Yes" and 120 "No" responses: "We have plans to change this employee's job."

Nearly 80 percent of the employers' responses were negative. The instrument did not attempt to determine the reasons for the negative responses. It is likely that there will be a relatively high turnover rate of the 80 percent who were not being considered for new jobs.

> Statement 19, 41 "Yes" and 112 "No": "We propose that this employee will be upgraded in wages on his present job."

About 75 percent of the responses were negative. The failure to upgrade in wages will likely result in a high turnover rate. The graduates were told by their instructors that their training would enable them to continue to make advancements on the job; failure to do so will result in their looking for other jobs.

> Statement 20, 19 "Yes" and 134 "No": "We are considering promoting this employee to a better paying job with greater responsibility."

About 87 percent of the responses were negative. This does not mean, however, that the graduates will not be considered later for promotions. The writer expected a near reversal of these responses. The lack of future job advancement prospects may be dysfunctional to better graduate performance on the job and may discourage future participation in Manpower Training.

Your company and MDTA.

Statement 21, 47 "Yes" and 106 "No": "For future job openings, MDTA graduates will be sought and hired if available."

Less than one third of the answers were affirmative. A much larger percentage of affirmative answers would have been an inducement to others to take Manpower Training. The instrument did not attempt to determine the reasons for responses. If graduates demanded higher starting salaries than nongraduates but performed only equally as well as nongraduates, the reasons for not seeking the graduates is clear. However, if the reasons for not seeking graduates was to have lower starting salaries, Manpower Training made it more difficult for graduates to secure good jobs.

Statement 22, 26 "Yes" and 127 "No": "MDTA graduates will receive a higher starting salary than the usual walk-in applicant."

About 84 percent of the responses were negative. If graduates cannot expect to receive higher starting salaries than nongraduates, it will be difficult to convince potential trainees of the worth of the training. The potential trainee cannot be expected to forego the income he could have made during the training period to begin at the same salary after training as he could have received before training.

Statement 23, 12 "Yes" and 141 "No": "In our company, MDTA graduates are less likely to layout than other workers."

Over 90 percent of the employers' responses were negative. Graduates are considered as likely to miss a day of work for personal reasons as any other employee. This may account in part for some of the negative aspects of answers to other questions.

Statement 24, 17 "Yes" and 136 "No": "In our company, MDTA graduates are less likely to layoff than other graduates."

About 90 percent of the responses were negative. The training received does not insure the graduates the likelihood of being by-passed when layoffs occur. It was anticipated that the MDTA training would have resulted in less negative responses to this question, since it was assumed that the training made the graduate more valuable than an employee without the training, other characteristics being similar.

Summary of employers' responses. Under the three broad categories of statements in Appendix C, different patterns of responses were observed.

1. Employers' evaluations of employee: This section included the statements numbered 6 through 17. The statements were generally favorable to the Manpower Training graduates. There were some exceptions to that, however.

Responses to Statements 7 and 16 were not favorable to the graduates. Responses to Statement 9 favored the graduates, but by a slim margin.

2. Employers' expectations of employee: This section included Statement 18, 19, and 20 and was concerned with the possibilities of graduates being upgraded or promoted. There were 93 "Yes" and 366 "No" responses to the three statements. Based on these responses, a graduate's chances of being upgraded or promoted are only about one in five.

3. Your company and MDTA: This section included Statements 21 through 24 and was concerned with the reception of future MDTA graduates and job security. Responses to all four statements were overwhelmingly negative.

The employers agreed that the Manpower Training graduates generally were equal to or superior to the other employees in their companies; there was also an overwhelming trend in the responses of the employers not to recognize the superior skills of the graduates. The Manpower Training programs have been successful in providing well-trained workers. It is up to the employers to pay the graduates acceptable wages and to make advancements in their jobs possible.

Analysis of Textile and Other Employers' Responses

In this section of the Chapter, the responses of textile employers were compared with those of all other employers. Comments as to the significance of the frequency of responses were made and probable causes for differences were given.

Since there were two groups of employers, responses were given as shown below, with the textile employers' responses given first and the other employers' responses second: Statement 6, 49/12/7; 56/11/18. The textile employers' responses were given first, and there were 49 affirmative, 12 "Undecided," and 7 negative responses; the other employers' responses were 56 affirmative, 11 "Undecided," and 18 negative.

> Statement 6, 49/12/7; 56/11/18: "MDTA training has given adequate knowledge of the skills for the job the employee now holds."

The majority of responses in each category were affirmative. The larger majority of negative responses in the second group is not surprising since many graduates took jobs not related to their training.

> Statement 7, 21/9/38: 8/8/69: "The training has been beneficial to this employee in promoting or transferring him to a new job."

About one third of the textile employers' responses were affirmative, but over half of the responses were negative. The other employers'

responses were overwhelmingly negative. The significance of the latter responses is that many graduates were working out of field and learned the things they needed to know about their jobs elsewhere.

> Statement 8, 54/0/14; 63/11/11: "This employee has good work practices on his job."

Both groups of employers overwhelmingly affirmed that the graduates had good work practices on the job. About 25 percent of the textile employers' responses and about 12 percent of the other employers' responses were negative. Either the graduates were not practicing good work habits in these cases or employer expectations of what was expected have not been properly explained and required.

> Statement 9, 23/12/26; 57/0/21: "This employee's attendance record relative to absenteeism is better than average for your company."

The textile employers' responses indicated little difference as relates to absenteeism in the graduates and other employees; the other employers' responses were over 70 percent affirmative. The difference could be accounted for in part by differences in job latitude in the two groups of employers.

> Statement 10, 58/3/7; 59/7/19: "This employee's attendance record relative to tardiness is better than average for your company."

About 85 percent of the textile employers' responses and about 70 percent of the other employers' responses were affirmative. As stated in a previous section of this Chapter, while training was underway, the graduates were required to be to class on time. Failure to observe this rule resulted in no pay, or dismissal from training. It appears that this conditioning has carried forward to their present jobs.

Statement 11, 40/5/23; 50/5/30: "This employee willingly and conscientiously accepts direction and handles responsbility required by his job."

Over half the responses in each instance were affirmative, but this proportion was less than desirable. The interpretation of this statement by the person supplying the response would probably be different from the interpretation of the graduates. It is conjecture on the part of the writer that little authority was delegated with the responsibility which attends the graduates' jobs in too many instances.

Statement 12, 61/0/7; 58/7/20: "This employee gets along well with other employees."

Graduates generally get along well with other employees. The largest segment of negative responses came from the nontextile employers and could be concerned primarily with decisions about how to do things best on the job, and not with the failure of graduates to adjust socially to other employees.

Statement 13, 53/3/12; 59/16/10: "This employee gets along well with his supervisor."

Well over two thirds of the responses of each employer category were affirmative. The negative responses were probably caused by disagreement about ways to do the job, or the supervisor feeling the graduates did not respond quickly enough to orders. Both first-line supervisors and plant managers in the textile group of employers completed Appendix C and this could account for some of the differences in responses.

Statement 14, 56/1/11; 73/7/5: "His knowledge of tools and materials required for the job he holds is adequate by company standards."

Again a majority of responses from both groups of employers were affirmative. The smaller percentage of negative responses from the

nontextile employers, when compared to the negative responses to Statement 6, indicated the graduates with out-of-field jobs have learned about their new jobs after getting them or had the necessary requirements before getting them.

Statement 15, 61/4/3; 61/10/14: "He has self-confidence in performing his work."

Almost 90 percent of the textile employers' responses and about 75 percent of the other employers' responses were affirmative. The responses to this statement, when compared to Statement 11, raise some questions as to interpretation. It is not reasonable that the same employees who so overwhelmingly have self-confidence in performing their jobs would be as reluctant to accept direction and responsibility required by the job as responses to Statement 11 indicated.

Statement 16, 11/31/26; 31/5/51: "This employee is a better worker than the usual prospect referred to this company by the Employment Security Commission."

Over half the responses by each group of employers was negative, indicating that the training was not worth its cost, at least as far as making the graduates more desirable as employees than other workers referred by the Employment Security Commission. However, it must be remembered that both categories of employers included graduates who took jobs not related to their training, so the training would be of little benefit in such cases in making the graduate more desirable than the usual referrals from the Employment Security Commission.

Statement 17, 21/9/38; 67/3/18: "We consider this employee in his present job better than other employees performing similar work."

Over half the textile employers' responses were negative, while over 75 percent of the other employers' responses were affirmative. The

textile jobs were not those which let one exercise his decision-making abilities, while the other category of employers was one in which the employees must make judgments in the performance of their jobs. This latter group of employers encouraged new and better ways of doing the job. The textile employers prescribed step-by-step procedures and inhibited attempts to deviate from the prescribed procedures.

Employers' expectations of employee.

Statement 18, 8 "Yes," 60 "No"; 25 "Yes," 60 "No": "We have plans to change this employee's present job."

About 88 percent of the textile employers' responses and 75 percent of the other employers' responses were negative. The questionnaire was not designed to learn the frequency or requirements for job changes. It is hoped that more job changes will occur than the answers indicated.

Statement 19, 11 "Yes," 57 "No"; 30 "Yes," 55 "No": "We propose that this employee will be upgraded in wages on his present job."

Prospects for graduates being upgraded were not bright for those in the textile field. About three eighths of the graduates employed in other fields were in line for being upgraded on their present jobs. Hopefully, the number of employees upgraded will increase as they gain experience.

Statement 20, 14 "Yes," 54 "No"; 5 "Yes," 80 "No": "We are considering promoting this employee to a better paying job with greater responsibility."

The textile employers planned to promote about 25 percent of the graduates working for them. Only about 6 percent of the graduates in other fields were being considered for promotion. A part of the reason for such a small percentage of graduates working in other fields not being considered for promotion was that they generally worked for small

companies, in some instances with as few as three employees. Promotions in such instances were not probable.

Your company and MDTA graduates.

> Statement 21, 35 "Yes," 33 "No"; 12 "Yes," 73 "No": "For future job openings, MDTA graduates will be sought and hired if available."

The textile employers' responses were almost 50-50, but about 86 percent of the other employers' responses were negative. This can be viewed as a guarded admittance by the textile employers that the graduates are desirable as employees. But the enormous negative response from the nontextile employers was an indication that the training was wasted as far as enhancing the graduates' employability.

> Statement 22, 18 "Yes," 50 "No"; 29 "Yes," 66 "No": "MDTA graduates will receive a higher starting salary than the usual walk-in applicant."

Over 70 percent of the textile responses and over two thirds of the nontextile responses were negative. If graduates cannot expect to receive a higher starting wage than could have been expected without training, there is no inducement to take the training. Other statements with high affirmative responses, taken with this statement, indicated that employers wanted better trained employees but did not want to pay better salaries to reward the person for the extra training.

> Statement 23, 7 "Yes," 61 "No"; 5 "Yes," 80 "No": "In our company, MDTA graduates are less likely to layout than other workers."

The overwhelming negative majority of responses from both employer groups indicated the graduates were almost as likely to layout of work as any other employee.

Statement 24, 10 "Yes," 58 "No"; 7 "Yes," 78 "No": "In our company, MDTA graduates are less likely to layoff than other workers."

The employers reported that graduates were not less likely to layoff than other employees. In this respect, training has been of little value since it made a graduate no more desirable to keep on the payroll than the average walk-in applicant.

Summary of textile and other employers' responses. The responses of textile employers were compared to the responses of other employers. Three broad categories of statements were reviewed. The comparisons were summarized as follows:

1. Employers' evaluations of employee: This section included Statements 6 through 17. The responses to these statements were generally favorable to the Manpower Training graduates. Both employer categories responded unfavorably to Statement 7. The textile employers' responses to Statement 9 were slightly more unfavorable than they were favorable. Responses from both employer groups were unfavorable to Statement 16 and the textile employers' responses to Statement 17 were unfavorable.

2. Employers' expectations of employee: This section included Statements 18, 19, and 20. Responses from both employer categories were unfavorable.

3. Your company and MDTA: This section included Statements 21 through 24. Responses of textile employers to Statement 21 were 35 "Yes" and 33 "No", just slightly favorable to the graduates. All other responses in this section were unfavorable for the Manpower Training graduates.

There was a general trend to recognize the Manpower Training graduates as being better employees overall. However, it appeared that the employers were not amenable to showing the graduates due consideration in terms of upgrading, promotion, and job security.

Statistical Analysis of Employers' Responses

In this section of the Chapter, employers' responses to the statements in Appendix C were treated statistically to determine whether or not significant differences occurred as follows: (1) between observed and expected responses from all employers; (2) between observed and expected responses of textile employers; and (3) between responses of textile employers and all other employers.

The chi-square test was used to determine whether or not there were significant differences in the responses of employers. The results of the statistical computations were compiled in tabular form and are given in Tables 5-25 through 5-27.

The differences in responses given by all employers, with one exception, were highly significant. There were no significant differences in the responses given to Statement 23. (See Table 5-25.)

The responses of textile employers compared to responses of other employers had four statements with no significant differences, one with differences which were significant at the .05 level, with the remainder having highly significant differences. (See Table 5-27.)

TABLE 5-25

Chi-Square Test of the Differences Between Responses of Employers of Manpower Development Training Graduates, 1967 through 1973, at Richmond Technical Institute

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
6	4	70.33	Yes	Yes	16	4	131.16	Yes	Yes
7	4	302.78	Yes	Yes	17	4	243.19	Yes	Yes
8	4	294.49	Yes	Yes	18	1	79.32	Yes	Yes
9	4	185.82	Yes	Yes	19	1	20.26	Yes	Yes
10	4	349.77	Yes	Yes	20	1	34.72	Yes	Yes
11	4	240.67	Yes	Yes	21	1	48.90	Yes	Yes
12	4	258.82	Yes	Yes	22	1	75.92	Yes	Yes
13	4	438.15	Yes	Yes	23	1	1.36	No	No
14	4	383.93	Yes	Yes	24	1	16.96	Yes	Yes
15	4	294.10	Yes	Yes					

In the preceding sections of this Chapter, the Statements in Appendix C were reviewed and analyzed individually in two categories: (1) all employers and (2) textile and other employers. The review and analysis indicated that employers of Manpower Training graduates generally considered them better employees than other employees in similar jobs. However, the employers' plans to upgrade, promote, and provide job security were not conducive to the graduates' remaining with their present employers.

Based on the review of employers' responses, the writer surmised that graduates employed by nontextile employers were able to exercise greater judgmental discretion in the performance of their duties than the graduates employed by textile employers. The work of textile employees

TABLE 5-26

Chi-Square Test of Differences in Responses of Textile Employers to Statements in Appendix C

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
6	4	122.72	Yes	Yes	16	4	43.62	Yes	Yes
7	4	75.62	Yes	Yes	17	4	32.88	Yes	Yes
8	4	136.56	Yes	Yes	18	1	39.76	Yes	Yes
9	4	26.26	Yes	Yes	19	1	31.12	Yes	Yes
10	4	123.34	Yes	Yes	20	1	40.00	Yes	Yes
11	4	65.24	Yes	Yes	21	1	.03	No	No
12	4	98.54	Yes	Yes	22	1	32.00	Yes	Yes
13	4	49.50	Yes	Yes	23	1	42.88	Yes	Yes
14	4	209.35	Yes	Yes	24	1	33.88	Yes	Yes
15	4	90.09	Yes	Yes					

TABLE 5-27

Chi-Square Test of Differences in Responses of Textile Employers Compared to the Responses of All Other Employers

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
6	4	66.69	Yes	Yes	16	4	21.98	Yes	Yes
7	4	8.55	No	No	17	4	36.15	Yes	Yes
8	4	25.74	Yes	Yes	18	1	6.96	Yes	Yes
9	4	22.97	Yes	Yes	19	1	6.94	Yes	Yes
10	4	29.11	Yes	Yes	20	1	7.53	Yes	Yes
11	4	5.81	No	No	21	1	13.28	Yes	Yes
12	4	25.09	Yes	Yes	22	1	7.73	Yes	Yes
13	4	35.99	Yes	Yes	23	1	1.02	No	No
14	4	14.58	Yes	Yes	24	1	1.60	No	No
15	4	10.33	Yes	No					

was repetitive by nature and was laid out, step-by-step, generally. The work of the graduates of other employers generally required that they solve unexpected problems as they arose in the normal course of their employment.

RESPONSES TO EMPLOYMENT SECURITY COMMISSION QUESTIONNAIRE

The responses received to the statements in Appendix E were treated by the chi-square test to determine the significance of differences in responses. The Manager of the Rockingham Office of the Employment Security Commission and nine interviewers in the tri-county area completed the questionnaire. The Director of the Manpower Development Training Center at Richmond Technical Institute and nine present and past full-time instructors of Manpower Training programs completed the instrument. The results of the chi-square test are presented in Table 5-28.

As pointed out earlier, there has been considerable mobility of the Manpower Development Training program instructional staff. Reasons for the mobility were given. Those instructors who had to find and take another job after their program terminated may have recorded a portion of their frustration for the lack of continuity of job availability in their responses.

The Manpower Training instructors did not help in the selection of trainees, other than talking to them before the trainees actually agreed to take the training. These instructors felt a sense of frustration, especially when students dropped out following what the instructors felt was the best teaching they could do. And the repetition of

TABLE 5-28

Chi-Square Test of the Significance of the Differences in Responses to a Questionnaire About the Role of the Employment Security Commission in Manpower Training from Employment Security Commission and Manpower Development Training Personnel

Statement Number	df	x^2	Significant at Level: .05	.01	Statement Number	df	x^2	Significant at Level: .05	.01
1	4	22.00	Yes	Yes	9	4	32.00	Yes	Yes
2	4	21.50	Yes	Yes	10	4	10.00	Yes	No
3	4	21.50	Yes	Yes	11	4	20.50	Yes	Yes
4	4	46.00	Yes	Yes	12	4	26.50	Yes	Yes
5	4	54.50	Yes	Yes	13	4	11.00	Yes	No
6	4	18.50	Yes	Yes	14	4	8.25	No	No
7	4	22.00	Yes	Yes	15	4	11.25	Yes	No
8	4	48.00	Yes	Yes					

a program depends in large measure on the dropout rate of the programs previously. Thus, an able instructor may not be able to teach a needed program again because of the high attrition rate over which he had little control, but for which he suffered.

The Employment Security Commission interviewers had no control over the starting dates of programs, but were charged with the responsibility of screening, testing, interviewing, selecting, and placing trainees.

After program proposals had been drawn up by the Manpower Development Director and the Director of the Rockingham office of the Employment Security Commission, they were submitted to the State Director of Manpower Programs in Raleigh, North Carolina, for approval. Approval was contingent on the availability of funds and the acceptability of the program proposed.

Upon receipt of approval of a program by the Rockingham office of the Employment Security Commission, the trainee selection process was scheduled to begin about two weeks before the program's approved start-up date. Experience has shown that selection of trainees sooner than two weeks before training began was not desirable because many of the persons selected for training would not show up for training because they had found a job or moved out of the area.

Selecting trainees for a program in two weeks meant that the most qualified of those who presented themselves at the Employment Security Commission office were chosen for training. The interviewers had certain requirements to meet in filling a class. The Manpower Development and Training Act of 1962 (as amended) required certain percentages of the trainees to be disadvantaged, youth, and unemployed family heads at different times during the period covered by the study.

Langdon[37] noted that the national average of those who completed Manpower Development Training was 43.2 percent and was 48.9 percent in his study. In this study, 53.6 percent of those enrolled graduated.

The Act, by specifying percentages of certain groups which must be selected for training, was working both positively and negatively. It was working positively by including many disadvantaged, young, and old who might have been excluded otherwise. It was working negatively by denying better qualified prospects the opportunity to participate in the training, if they were not classified in one of the groups specified by the Act.

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[37]Langdon, op. cit., p. 222.

While poorly qualified and disinterested trainees were chosen, in some instances, to participate in Manpower Training programs, such selections were not due to indifference on the part of the Employment Security Commission interviewer, but were the results of the need to satisfy the requirements of the law.

SUMMARY

This Chapter has been concerned with a review and analysis of responses of graduates to Statements in Appendix F and of employers to Statements in Appendix C.

The responses of the graduates were analyzed item by item and reasons for the responses proposed. It was concluded that the responses of the graduates were generally supportive of Manpower Training and exceptions were noted.

Statistical analyses were made of the graduates' responses in four different groupings. It was learned that the largest number of significant differences occurred when the responses of all graduates were compared to determine whether or not there were significant differences between observed and expected responses. The least number of significant differences occurred when responses were analyzed by years to determine whether or not there were significant differences between observed and expected responses.

The responses of employers were reviewed and analyzed item by item for all employers and for textile employers compared to other employers. It was learned that the employers generally regarded the graduates favorably, in comparison to other employees, and that graduates' chances of being upgraded or promoted were slim. Graduates were assured

little job security, also, since most employers indicated they would make no distinction between graduates and other employees if layoffs occurred.

Statistical analyses were made of employers' responses. Results of the computations were presented in Tables 5-25 through 5-27.

CHAPTER VI

MANPOWER DEVELOPMENT TRAINING PROGRAMS OF RICHMOND TECHNICAL INSTITUTE: OVERVIEW AND CONCLUSIONS

This Chapter is composed of the overview of the major findings of the study and conclusions resulting from them. Recommendations based on the findings form the final section of this Chapter.

OVERVIEW OF MAJOR FINDINGS

Graduates of Manpower Training Programs at Richmond Technical Institute realized increases in their incomes following the completion of their training. The increases ranged from a low of 11.2 percent to a high of 71.2 percent over the pre-training mean hourly incomes. Using an increase in post-training incomes over pre-training incomes as a measure of the success of the programs, the programs were judged to have been successful at Richmond Technical Institute in each year covered by the study, 1967 through 1973. The increases in the incomes of graduates were significant in each year except for the 1971 and 1973 graduates.

The first null hypothesis, therefore, was rejected for the years 1967, 1968, 1969, 1970, and 1972. The increases in incomes were significant at the .01 level for all years for which the null hypothesis was rejected, except in 1969, when the increase was significant at the .05 level. While there were increases in the post-training incomes of the 1971 and 1973 graduates, the incomes were not statistically significant, so the first null hypothesis was accepted for 1971 and 1973.

Public Law 87-415 contained a statement about the purpose of the Manpower Development and Training Act of 1962. The purpose read, in part, "...it is in the national interest...to...reduce the costs of unemployment compensation and public assistance...."[1] These purposes have been fulfilled only minimally by the Manpower Training programs at Richmond Technical Institute.

In relation to unemployment, the programs have had little definitive impact. In 1970, the year in which the enrollment in the Manpower Training programs at Richmond Technical Institute was the highest, only 2.7 percent of the unemployed persons in the tri-county area were selected to receive Manpower Training. Those selected amounted to 39.7 percent of the total number of enrollees in 1970. The percentage of the unemployed who were selected for training over the entire period of the study, 1967 through 1973, amounted to only 1.5 percent of the cumulative total of unemployed persons. Opportunities to fill Manpower Training classes with those who were receiving unemployment compensation were not exercised during the seven-year period of the study.

There were highly significant reductions in unemployment in 1968 and 1972, and the 1971 reduction in unemployment was significant at the .05 level. The second null hypothesis was accepted for 1967, 1969, 1970, and 1973, and was rejected for 1968, 1971, and 1972. In the opinion of the researcher, selecting eligible and qualified trainees from the ranks of the unemployed would have made a significant contribution toward

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[1]United States Congress, "Manpower Development and Training Act of 1962," op. cit., p. 24.

fulfilling the stated object of the Manpower Development and Training Act of reducing the costs of unemployment compensation.

In relation to public assistance, an even less satisfactory matching of intent of the law and performance occurred. For the seven-year period 1967 through 1973, only fifteen welfare recipients were selected to receive Manpower Training, and twelve of them, or 80 percent, were selected in the first year of the study. No welfare recipients were selected to participate in the training during the last four years of the study, 1970 through 1973.

The third null hypothesis was accepted since there were no significant reductions in the number of welfare payments during the period covered by the study. The researcher is of the opinion that the selection of qualified welfare recipients for participation in Manpower Development Training programs would have contributed substantially to meeting the stated objective of reducing welfare costs.

The fourth null hypothesis was rejected. It appears that the pay-back period may average as high as four years. While the pay-back period will be longer than anticipated, the government stands to realize substantial benefits from the graduates for the remainder of their working lives. A worker who can expect to work for thirty years after completing training will pay taxes at a higher rate than if he had not participated in the training. The higher rate of tax payments to the government will continue for at least twenty-six years.

This researcher has attributed the longer than expected pay-back period to several factors. Those contributing factors are enumerated and analyzed in the following sections of this Chapter:

1. The exclusion of 12.4 percent of the graduates from the study, since only those who actually reside in the tri-county area of the study were included when the data were analyzed. There were 378 trainees who actually achieved the training objectives of the programs, but only 331 were included in the analysis of the data.

2. The low number of trainees increased the cost per trainee. For example, in 1973, there were forty-four trainees enrolled in three programs. If the number of enrollees had been twice what it was and if the other costs had been the same per trainee, assuming a negligible increase in the cost of instructional materials, the government's cost per graduate would have been reduced by approximately 25 percent. A larger enrollment would have reduced the per-graduate cost further.

3. Inflation affected all costs associated with training - salaries, supplies and equipment, and allowances paid trainees.

4. The length of the training period has a direct bearing on the length of the pay-back period. Had the training period in 1967 been one month instead of ten months, assuming the monthly costs would have been a pro rata share of the cost of ten months' training, the government's cost of training would have been repaid before the end of the first year after the completion of training.

5. In this study, the government's cost of training was considered as being repaid by increased federal income taxes only. No other taxes, such as local property, state sales, or other federal taxes, were included in the estimate of the amount repaid each year.

Neither the literature nor this study delved into an important by-product of training which the researcher was able to identify in personal contacts with graduates. During the collection of the data for

the study, the researcher frequently heard unsolicited comments from the graduates about how grateful they were for having received the Manpower Training. Better jobs and more income were most frequently mentioned by these graduates who expressed their felt need to thank someone for having received the training. The graduates were appreciative of an improved quality of life made possible by the training they received.

RECOMMENDATIONS

The recommendations made herein are based on the researcher's reaction to and interpretation of the data which were collected and analyzed in this study. The intent of the recommendations is the continued improvement of Manpower Training programs so graduates can realize even greater measures of success than those who graduated from the programs included in this study.

Recommendation Number One

It is recommended that Manpower Development Training programs be studied by local governmental leaders as potential supplementary programs to services provided to local taxpayers.

This study has resulted in the determination that there were significant increases in the incomes of graduates in five of the seven years covered by the study. A service to the taxpayers would be the support of programs which result in increased incomes for the participants and in reduced expenditures of local tax dollars.

While the recommended study will probably result in several alternatives, the researcher has recognized one potential alternative. In it, the local taxing authority would pay the costs for an individual

to attend a local technical institute or community college in a vocational program. The cost to the taxing authority would be comprised of tuition charges of $32 per quarter for four quarters, the cost of books, and a daily travel allowance.

At the end of one year, the individual would have completed a course of study and could take a job which he could not have filled without the training. While the cost of supporting a student in school for a year will probably be less than the cost of welfare payments for the same period for the individual, the long range effect will be to reduce welfare costs while increasing the size of the tax base for the county.

Recommendation Number Two

It is recommended that persons who are receiving unemployment compensation or welfare payments should be screened and qualified persons selected as trainees from this pool of needy persons before others are selected for training. A portion of the Statement of Findings and Purpose of the Manpower Development and Training Act of 1962 reads, "...it is in the national interest...to...reduce the costs of unemployment compensation and public assistance...."[2]

The Manpower Training experience at Richmond Technical Institute has had different levels of success as relates to each of the two groups of persons, unemployment compensation and welfare payment recipients. A high priority should be considered in the future for the selection of trainees for Manpower programs to insure that these two groups of persons are considered for training before other applicants.

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[2]United States Congress. Public Law 87-415, op. cit., p. 24.

During the period covered by this study, only fifteen welfare recipients were selected to participate in the training, with twelve of them being selected in 1967, the first year Manpower Training was offered in the tri-county area. The number of potentially eligible welfare recipients from among whom trainees could have been selected between 1967 and 1973 ranged from a low of 2,660 to a high of 3,207. A greater effort should be made to include the able and qualified welfare recipients as trainees in Manpower Training programs.

The number of unemployment compensation recipients selected to participate in the training during the period covered by the study was higher than the number of welfare recipients, but never exceeded 40 percent of the total number of trainees in any single year. However, many unemployed persons who were not qualified to receive unemployment compensation payments were selected for training. The selection of unemployed persons, whether or not they are receiving unemployment compensation payments, should continue.

Recommendation Number Three

It is recommended that the process by which trainees are selected for participation in Manpower Training programs be reviewed. The purpose of this recommendation is to raise the educational level of the participants to increase their chances of successfully completing the training, if selected to participate in Manpower Training.

Langdon[3] commented about the problem of those on welfare participating in Manpower Training and stated that a lack of education could

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[3]See footnote 14 in Chapter III.

be one of the reasons for their lack of participation. Over one half of the trainees each year at Richmond Technical Institute had less than a twelfth grade education (See Appendix I). According to Flores, requiring a twelfth grade education for participation in the training resulted in "...a great improvement..."[4] in the percentage of trainees who graduated when compared to the year before the requirement was instituted.

Graduates' responses to Statements 6, 7, 25, 35, and 36 in Appendix F can be taken as evidence of the need to implement this recommendation. The statements dealt with learning which took place in the programs. While the graduates' responses were generally supportive of Manpower Training, the substantial number of "Undecided" and negative responses should be taken as an indication that trainee selection needs to be reviewed for the purpose of strengthening the selection process.

Ways to raise the educational level of potential trainees should be investigated, analyzed, and implemented. These plans could include the use of existing educational facilities in the community and would result in the participants of this program having greater chances of success once selected to participate in Manpower Training programs.

Recommendation Number Four

It is recommended that consideration be given to providing a marked increase in the amount of training allowances paid trainees. The increase would enable the trainees to compete in the market for food, clothing, and other necessities of life.

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[4]Flores, Froilan. "An Historical and Cost Analysis of Manpower Development Training Act Programs in the Washoe County(Reno) School District." (Ann Arbor: University Microfilms, 1968.), p. 87.

This recommendation was prompted by responses of graduates to Statement 9 and open-ended Statement 40 in Appendix F. Responses to Statement 9 were twenty-two affirmative, six "Undecided" and two negative. For Statement 40, seven graduates said they would pay more allowances.

A further reason for the recommendation resulted from the gathering of data from student records. While the reasons for trainees' decisions to dropout of training were not researched, the termination notice frequently carried the notation that the reason for the termination of training was because the training allowance was too small.

An increase in the training allowance, as proposed, may serve to induce welfare recipients to inquire about training programs and may result in requests from these people that they be considered for selection as a trainee in future programs.

Recommendation Number Five

It is recommended that consideration be given to changing the method of program evaluation for the purpose of improving the quality of instruction for students. This recommendation is based on graduates' responses to statements in Appendix F. The responses indicated uncertainty or negative feelings in some areas of instruction.

Responses to Statements 11, 13, 21, 25, and 35 dealt with the daily and overall training experiences of graduates. Responses were generally favorable to and supportive of Manpower Training; however, the frequency of other responses indicate that a review and changes may be needed. The review may reveal deficiencies and result in better instruction for the students. If so, the changes are desirable and should occur.

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APPENDIXES

APPENDIX A

EMPLOYMENT QUESTIONNAIRE

CODE

A. Name _____ ____

Date Prepared _____ ____

B. Our records show that you completed MDTA Training.

1. Name of Program _____ ____

2. Date of completion _____ ____

C. What was the first job you had after this training?

3. Company _____ ____

4. Job title _____ ____

5. Began work _____ ____

6. Starting salary _____ ____

7. Do you still have the job in 4 above?

Yes _____ No _____ ____

8. If you answered yes, give present salary.

$ _____ hr./wk. ____

9. If you answered no, state when you left that job.

_____ ____

If you answered 'no' to question 7 above, please list other jobs you have had since.

10. Present job title _____ ____

(a) Company _____ ____

(b) Beginning salary _____ ____

(c) Present salary _____ ____

(d) Date you began work _____ ____

APPENDIX A (continued)

CODE

11. Next Previous job title _____ ____

(a) Company _____ ____

(b) Beginning salary _____ ____

(c) Salary when you left this company _____ ____

(d) Date you began work _____ ____

(e) Date you left this company _____ ____

12. Next previous job title _____ ____

(a) Company _____ ____

(b) Beginning salary _____ ____

(c) Salary when you left this company _____ ____

(d) Date you began work _____ ____

(e) Date you left this company _____ ____

13. Next previous job title _____ ____

(a) Company _____ ____

(b) Beginning salary _____ ____

(c) Salary when you left this company _____ ____

(d) Date you began work _____ ____

(e) Date you left this company _____ ____

APPENDIX B

Dear

Richmond Technical Institute, in cooperation with the North Carolina Employment Security Commission, is conducting an evaluation of Manpower Development Training Programs in Richmond County, North Carolina. As a graduate of the program, your cooperation in making the evaluation will be very valuable. Any information you share with us will be treated confidentially and your name will not be made known.

Please complete the enclosed form and return it to me in the self-addressed, stamped envelope which is enclosed. Feel free to make comments good or bad about the training you received.

Sincerely yours,

Joseph H. Nanney
President

Virgil E. Bratton
Director, MDTA Programs

Richard Smith
Manager, Rockingham ESC Office

Enclosures

APPENDIX C

EMPLOYER QUESTIONNAIRE

Re: _____ Date Prepared _____

Job Title _____

A. Individual Employee Data

1. Date employee began work _____

2. Initial salary. $ _____ hr. or $ _____ wk.

   Present salary. $ _____ hr. or $ _____ wk.

   If employee works overtime, what is his overtime rate per salary. $ _____ hr. or $ _____ wk.

3. How did you learn of the employee's availability for work?

   a. Through Employment Security Commission _____

   b. Employee made initial contact _____

   c. Manpower personnel contact _____

   d. One of your employees told you about him _____

   e. Other _____ Please explain _____

4. Age of employee at time this questionnaire is prepared

   _____ yrs.

5. During the time the employee has been with your company, has he been upgraded, promoted to a different job, or transferred. Please give details.

   _____

   _____

B. Employer Evaluation of Employee

The following questions are intended to solicit your frank opinion about the value and quality of Manpower Development Training Act Programs as reflected through an evaluation of this employee.

APPENDIX C (continued)

Based on your experience with this employee who has received the MDTA training, please indicate the answers which best describe your opinion of the following statements. Make a check mark under the word(s) that you choose as your reply.

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
6. MDTA training has given adequate knowledge of the skills for the job the employee now holds.	___	___	___	___	___
7. The training has been beneficial to this employee in promoting or transferring him to a new job.	___	___	___	___	___
8. This employee has good work practices on his job.	___	___	___	___	___
9. This employee's attendance record relative to absenteeism is better than average for your company.	___	___	___	___	___
10. This employee's attendance record relative to tardiness is better than average for your company.	___	___	___	___	___
11. This employee willingly and conscientiously accepts direction and handles responsibility required by his job.	___	___	___	___	___
12. This employee gets along well with other employees.	___	___	___	___	___
13. This employee gets along well with his supervisor.	___	___	___	___	___
14. His knowledge of tools and materials required for the job he holds is adequate by company standards.	___	___	___	___	___
15. He has self-confidence in performing his work.	___	___	___	___	___

APPENDIX C (continued)

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
16. This employee is a better worker than the usual prospect referred to this company by the Employment Security Commission.	___	___	___	___	___
17. We consider this employee in his present job better than other employees performing similar work.	___	___	___	___	___

C. Employer Expectations of Employee

Please indicate your response to the following questions by placing a check under either 'Yes' or 'No.'

	Yes	No
18. We have plans to change this employee's present job.	___	___
19. We propose that this employee will be upgraded in wages on his present job.	___	___
20. We are considering promoting this employee to a better paying job with greater responsibility. (Please give nature of title and responsibilities of possible new job.)		
_____		
_____	___	___

(Possible salary of new job $ _____.)

D. Your Company and MDTA Graduates

Please indicate your response to the following questions by placing a check under either 'Yes' or 'No.'

	Yes	No
21. For future job openings, MDTA graduates will be sought and hired if available.	___	___

APPENDIX C (continued)

		Yes	No
22.	MDTA graduates will receive a higher starting salary than the usual walk-in applicant.	___	___
23.	In our company, MDTA graduates are less likely to layout than other workers.	___	___
24.	In our company, MDTA graduates are less likely to layoff than other workers.	___	___

APPENDIX D

Dear

Richmond Technical Institute, in cooperation with the North Carolina Employment Security Commission and the State Director of Manpower Development Training, is conducting a follow-up of Manpower Training graduates.

According to our information, who was a trainee in the program, is one of your employees at the present. Your cooperation in furnishing certain follow-up information will contribute to the validity of our findings and may result in improved training programs for the future.

Any information you share with us will be treated in strict confidence and neither your company nor the name of this employee will be made known. Answers will be treated statistically and only those who work with the evaluation will have access to your answers. These persons are aware of the confidential nature of your answers.

A self-addressed, stamped envelope is enclosed for your convenience in returning your reply to this inquiry. You are urged to furnish the requested information as soon as possible so the study can continue in an orderly fashion.

Thank you for your assistance in this matter.

Sincerely yours,

Joseph H. Nanney
President

Virgil E. Bratton
Director, MDTA Programs

Richard Smith
Manager, Rockingham ESC Office

Enclosures

APPENDIX E

QUESTIONNAIRE FOR EMPLOYMENT SECURITY COMMISSION

Each of the statements is to be rated on a one to five response scale as shown below. Please place a check under the response that reflects your opinion of the statement.(a)

		Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
1.	Interviews with candidates are designed to select trainees most likely to succeed from the Manpower Training.	___	___	___	___	___
2.	Interviewers are well informed about the exact nature of the training offered in each program.	___	___	___	___	___
3.	Tests are administered to each prospect and used to help the interviewer understand the abilities of the prospect.	___	___	___	___	___
4.	The kinds of jobs available upon completion of the training are carefully explained to each trainee before selection.	___	___	___	___	___
5.	The interviewer gives all the information (where to go, whom to see and when) the trainee will need to get off to a good start.	___	___	___	___	___
6.	The Employment Security Commission maintains an interest in how the trainee does while in the program.	___	___	___	___	___
7.	Trainees receive all the help they need for housing and transportation.	___	___	___	___	___
8.	All the available information about allowances is made available to trainees.	___	___	___	___	___
9.	Each prospect is treated as an individual by the Employment Security Commission.	___	___	___	___	___

APPENDIX E (continued)

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
10. The Manpower Training Counselor is consulted on a regular basis about the selection of trainees.	___	___	___	___	___
11. Interviews for trainees for a program are held far enough in advance to enable the Employment Security Commission to select appropriate trainees for a program.	___	___	___	___	___
12. The trainees selected for a program have the native ability to learn the skills to be taught.	___	___	___	___	___
13. Prospects with ability for, but no interest in, a program are selected over prospects with little ability but high interest in the program.	___	___	___	___	___
14. Allowances paid trainees are more than adequate.	___	___	___	___	___
15. The Employment Security Commission follow-up of graduates is satisfactory.	___	___	___	___	___
16. Other comments_____					
_____					
_____					
_____	___	___	___	___	___

(a) Statements 1 through 10 were developed, using as a guide, statements in a student opinionnaire developed in Evaluation-MDTA, by the Minnesota State Department of Education, ERIC Document Number 045809, in 1969.

APPENDIX F

GRADUATE QUESTIONNAIRE

Name of Student _____

MDTA Training Program Completion Date _____

Date Prepared _____

Following are a number of statements about Manpower Training. Read each statement and decide which of the five responses best reflect you opinion and place a check under that response.(a)

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
1. The school counselor was willing to help me with my personal problems.	___	___	___	___	___
2. The hours (time of day) that the course was offered were fine with me.	___	___	___	___	___
3. There were not enough tools and equipment for all students; therefore, I did not get full benefit of training.	___	___	___	___	___
4. The location of the school was O. K. for me.	___	___	___	___	___
5. If a friend wanted training, I would recommend the school	___	___	___	___	___
6. Most of the students in my class were smart enough to catch on to the course work.	___	___	___	___	___
7. I thought that most of the students in my class were making a real effort to learn.	___	___	___	___	___
8. Most students tried to get jobs related to the type of training they had.	___	___	___	___	___
9. The amount of allowances was fair.	___	___	___	___	___
10. The teacher knew his subject.	___	___	___	___	___
11. There was enough lab, shop, or practical application in the course.	___	___	___	___	___

APPENDIX F (continued)

		Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
12.	The teacher was as fair as he could be.	___	___	___	___	___
13.	The teacher let the students "fool around" too much.	___	___	___	___	___
14.	The training prepared students for good paying beginning jobs with steady employment.	___	___	___	___	___
15.	The teacher gave enough individual help.	___	___	___	___	___
16.	My opinions and suggestions were respected by the teacher.	___	___	___	___	___
17.	The teacher knew about area employers who might hire students.	___	___	___	___	___
18.	The teacher did a good job in relating the training to the job.	___	___	___	___	___
19.	The teacher was able to make the students understand the subject matter.	___	___	___	___	___
20.	I understood the grades given during the training well enough to know how I was doing.	___	___	___	___	___
21.	The teacher let the students know what he expected of them in the course.	___	___	___	___	___
22.	The school did not enforce the rules fairly for all students.	___	___	___	___	___
23.	The penalties for breaking school rules are too strict.	___	___	___	___	___
24.	The school does a good job of helping students get jobs after they finish their training.	___	___	___	___	___
25.	I learned enough in the training to get the type of job I wanted.	___	___	___	___	___

APPENDIX F (continued)

		Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
26.	Employers are looking for people with my type of training.	___	___	___	___	___
27.	During training, I learned a lot of practical things I can use in everyday living.	___	___	___	___	___
28.	The training and the people I met helped me grow as a person.	___	___	___	___	___
29.	The training was not worth the time and effort it cost me.	___	___	___	___	___
30.	I had a chance to visit the school before starting training.	___	___	___	___	___
31.	The school counselor talked with students only if they were failing or in serious trouble.	___	___	___	___	___
32.	I was informed of additional training opportunities in my career.	___	___	___	___	___
33.	Students should not be given final progress reports or certificates of completion to show employers.	___	___	___	___	___
34.	I feel I chose the right type of training.	___	___	___	___	___
35.	I think I need more training to get the type of job I was told I would be qualified for.	___	___	___	___	___
36.	I am better now at basic skills like reading and math.	___	___	___	___	___

37. The thing I liked best about my training was:

_____

_____

APPENDIX F (continued)

38. The thing I liked least about my training was:

_____

_____

39. If I could take the MDTA training over, I would:

_____

_____

40. The one thing I would change in MDTA is:

_____

_____

(a) Statements 1 through 36 were taken in part or in toto from a student opinionnaire developed in Evaluation - MDTA, by the Minnesota State Department of Education, ERIC Document Number 045809, in 1969.

APPENDIX G

STRAIGHT-TIME HOURLY EARNINGS

A Comparison of Straight-Time Hourly Earnings of Manpower Development Training Graduates (Earnings Before, First Earnings After Training, and Present Earnings)

Range of Earnings	Percent Before Training	Percent After Training	Percent Present Earnings
$ .00 to $ .74			
.75 to .99			
1.00 to 1.24			
1.25 to 1.49			
1.50 to 1.74			
1.75 to 1.99			
2.00 to 2.24			
2.25 to 2.49			
2.50 to 2.74			
2.75 to 2.99			
3.00 to 3.24			
3.25 to 3.49			
3.50 to 3.74			
3.75 to 3.99			
4.00 and over			

APPENDIX G

STRAIGHT-TIME HOURLY EARNINGS

A Comparison of Straight-Time Hourly Earnings of Manpower Development Training Graduates (Earnings Before, First Earnings After Training, and Present Earnings)

Range of Earnings	Percent Before Training	Percent After Training	Percent Present Earnings
$ .00 to $ .74			
.75 to .99			
1.00 to 1.24			
1.25 to 1.49			
1.50 to 1.74			
1.75 to 1.99			
2.00 to 2.24			
2.25 to 2.49			
2.50 to 2.74			
2.75 to 2.99			
3.00 to 3.24			
3.25 to 3.49			
3.50 to 3.74			
3.75 to 3.99			
4.00 and over			

APPENDIX H

Characteristics of Trainees Enrolled in Institutional Training Program Nationwide Under the Manpower Development and Training Act, Fiscal Years 1967- 1973(a)

Characteristics	All Years	(Percent Distribution) Fiscal Year of Enrollment 1973	1972	1971	1970	1969	1968	1967
Total Number	980,800	119,600	150,600	155,600	130,000	135,000	140,000	150,000
Percent	100	100	100	100	100	100	100	100
Sex:								
Male	59.3	67.3	63.2	58.5	59.4	55.6	55.4	56.8
Female	40.7	32.7	36.8	41.5	40.6	44.4	44.6	43.2
Age:								
Under 19 years	12.5	9.1	10.6	13.8	9.1	12.5	14.9	16.4
19-21 years	25.8	26.9	27.8	26.1	28.0	25.0	23.6	23.6
22-34 years	39.6	44.9	42.8	40.2	42.3	38.2	35.5	34.3
35-44 years	12.8	11.6	11.0	11.4	11.9	14.0	15.2	14.7
45 and over	9.3	7.5	7.7	8.5	8.8	10.3	10.8	11.0
Race:								
White	58.1	65.8	61.2	55.6	59.2	55.9	50.8	59.1
Black	37.5	30.1	33.1	39.3	36.0	39.7	45.4	38.0
Other	4.4	4.1	5.7	5.1	4.8	4.4	3.8	2.9
Years of Schooling Completed:								
Under 8 years	6.4	3.1	4.0	5.4	6.4	9.0	9.2	7.5
8 years	8.1	4.7	5.7	7.0	8.2	9.8	10.0	10.7
9-11 years	36.3	28.6	32.0	36.2	38.1	38.8	40.6	38.9
12 years	43.1	53.6	50.4	45.4	42.7	37.9	34.7	38.0
Over 12 years	6.1	10.0	7.9	6.0	4.5	4.5	5.5	4.9
Family Status:								
Head of Household	57.6	63.4	59.6	58.1	58.0	56.5	54.6	53.6
Other	42.4	36.6	40.4	41.9	42.0	43.5	45.4	46.4

APPENDIX H (continued)

(Percent Distribution)

Characteristics	All Years	Fiscal Year of Enrollment						
		1973	1972	1971	1970	1969	1968	1967
Primary Wage Earners:								
Yes	74.8	82.5	78.8	73.3	75.2	74.3	72.2	68.7
No	25.2	17.5	21.2	26.7	24.8	25.7	27.8	31.3
Years of Gainful Employment:								
Under 3 years	44.1	39.7	43.1	46.1	45.6	45.4	45.3	43.1
3 to 9 years	36.0	42.2	39.4	35.2	35.0	33.5	32.8	34.4
10 years or more	19.9	18.1	17.4	18.7	19.5	21.1	21.9	22.5
Prior Employment Status:								
Unemployed	75.0	65.4	72.0	72.7	73.8	79.6	79.7	80.3
Underemployed	14.8	13.6	12.2	13.5	15.2	16.9	16.5	15.8
Other	10.2	21.0	15.9	13.8	11.0	3.5	3.8	3.9
Duration of Unemployment:								
Under 5 weeks	29.9	28.1	24.8	26.4	31.4	32.3	31.0	35.9
5-14 weeks	23.6	21.6	21.7	23.5	25.9	24.6	24.1	23.6
15-26 weeks	17.7	15.7	16.6	17.5	17.1	14.4	15.5	13.5
27-52 weeks	21.2	31.7	34.2	30.9	24.0	15.9	11.5	9.6
Over 52 weeks	7.6	2.9	2.7	1.8	1.6	12.8	17.9	17.4
Disadvantaged:								
Yes	(b)	58.0	66.4	66.3	65.2	(b)	(b)	(b)
No	(b)	42.0	33.6	33.7	34.8	(b)	(b)	(b)
Public Assistance Recipient:								
Yes	13.6	12.9	14.8	15.8	12.9	13.4	12.6	12.1
No	86.4	87.1	85.2	84.2	87.1	86.6	87.4	87.9
Unemployment Compensation Recipient:								
Yes	9.5	9.6	11.7	9.9	9.1	7.3	8.8	10.0
No	90.5	90.4	88.3	90.1	91.9	92.7	91.2	90.0
Handicapped	11.1	12.4	12.1	11.1	12.1	10.6	9.3	10.0

APPENDIX H (continued)

Characteristics	All Years	(Percent Distribution) Fiscal Year of Enrollment 1973	1972	1971	1970	1969	1968	1967
Veteran	23.7	38.2	31.0	23.1	19.6	17.2	17.5	20.5

(a)United States Department of Labor, Manpower Report of the President: Including Reports by the U. S. Department of Labor and the U. S. Department of Health, Education, and Welfare (Washington: U. S. Government Printing Office, 1974).

(b)Data not collected this year.

APPENDIX I

Characteristics of Trainees Enrolled in Institutional Training Program at Richmond Technical Institute under the MDTA, Fiscal Years

1967 - 1973

(Percent Distribution)

Characteristics	All Years	Fiscal Year of Enrollment						
		1973	1972	1971	1970	1969	1968	1967
Total Numbers	705	44	105	112	151	80	87	126
Percent	100	100	100	100	100	100	100	100
Sex:								
Male	85.0	93.2	93.3	87.5	98.7	100	79.3	50.8
Female	15.0	6.8	6.7	12.5	1.3	0	20.7	49.2
Age:								
Under 19 years	14.3	18.2	13.3	18.8	22.5	12.5	4.6	6.3
19-21 years	25.6	29.5	24.4	22.3	29.8	22.5	32.2	23.8
22-34 years	39.4	31.8	43.3	36.6	29.1	51.3	42.5	42.9
35-44 years	12.5	11.4	12.2	13.4	12.6	8.8	11.5	15.9
45 years and over	7.8	9.1	6.7	8.9	6.0	6.0	9.2	11.2
Race:								
White	(1)	36.4	38.1	46.4	47.7	27.5	(1)	(1)
Black	(1)	63.6	61.9	43.8	45.0	72.5	(1)	(1)
Other	(1)	0	0	9.8	7.3	0	(1)	(1)
Years of Schooling Completed:								
Under 8 years	11.5	4.5	4.4	10.7	9.3	12.5	17.2	15.9
8 years	11.2	9.1	7.8	11.6	9.9	11.3	16.1	12.7
9 to 11 years	41.8	43.2	44.4	39.3	45.0	46.3	29.9	38.9
12 years	32.2	38.6	34.4	34.8	33.8	27.5	34.5	30.2
Over 12 years	3.3	4.5	8.9	3.6	2.0	2.5	2.3	2.4
Family Status:								
Head of Household	55.7	52.3	55.6	54.5	53.6	45.0	62.3	59.6
Other	44.3	47.7	44.4	45.5	46.4	55.0	36.8	40.5

APPENDIX I (continued)

(Percent Distribution)

Characteristics	All Years	Fiscal Year of Enrollment 1973	1972	1971	1970	1969	1968	1967
Wage Earner Status:								
Primary	55.5	47.7	55.6	54.5	53.0	37.5	63.2	70.6
Other	44.5	52.3	44.4	45.5	47.0	62.5	36.8	29.4
Years of Employment:								
Under 3 years	41.6	47.7	35.6	43.8	46.3	38.8	41.4	38.1
3 to 9 years	37.1	40.9	42.2	34.8	43.8	35.6	34.9	
10 years or more	21.3	11.4	22.2	21.4	19.9	17.5	23.0	27.0
Duration of Unemployment Prior to MDTA Training:								
Under 5 weeks	41.7	45.5	44.7	39.3	45.0	48.8	47.1	31.7
5 to 14 weeks	29.6	25.0	30.9	30.4	37.7	25.0	26.4	17.5
15 to 26 weeks	15.5	18.2	8.6	13.4	9.3	10.0	16.1	31.7
27 to 52 weeks	9.7	11.4	5.7	17.0	7.9	17.5	2.3	7.9
Over 52 weeks	3.5	0	0	0	0	3.8	8.0	11.1
Disadvantaged	43.8	50.0	54.4	67.9	66.2	68.8	(1)	(1)
Handicapped	18.4	50.0	22.2	15.2	20.5	16.3	26.4	12.7
Public Assistance Recipient	2.1	0	0	0	0	2.5	1.1	9.5
Unemployment Comp Recipient	27.0	27.3	27.8	27.7	39.7	26.3	24.1	14.3
Prior Military Status:								
Veteran	23.5	25.0	31.1	25.9	32.5	16.3	24.1	10.3
Non-Veteran	76.5	75.0	68.9	74.1	67.6	83.8	75.9	89.7
Marital Status:								
Married	44.3	45.5	52.2	51.8	49.7	37.5	42.5	30.9
Single	47.5	47.7	46.7	42.9	47.7	58.8	37.9	50.8
Widowed, Divorced, or Separated	8.2	6.8	1.1	5.4	2.6	3.8	19.5	18.3

(1) Data not collected this year.

APPENDIX J

National Unemployment Rates by Age, Sex, and Race for the Period from 1967 through 1973 and Total Unemployment Rates for Each Year During the Period(a)

	Year	19 and Under	20 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 and Over	Total
White Males	1967	21.7	4.2	1.9	4.6	1.8	2.2	2.7	2.7
	1968	20.5	4.6	1.7	1.4	1.5	1.7	1.7	2.6
	1969	20.4	4.6	1.7	1.4	1.4	1.7	2.1	2.5
	1970	27.7	7.8	3.1	2.3	2.3	2.7	3.2	4.0
	1971	30.6	9.4	4.0	2.9	2.8	3.2	3.4	4.9
	1972	28.8	8.5	3.4	2.5	2.5	3.0	3.3	4.5
	1973	25.1	6.5	3.0	1.8	2.0	2.4	2.9	3.7
White Females	1967	23.5	6.0	4.7	3.7	2.9	2.3	2.6	4.6
	1968	24.9	5.9	3.9	3.1	2.3	2.1	2.7	4.3
	1969	23.8	5.5	4.2	3.2	2.4	2.1	2.4	4.2
	1970	27.2	6.9	5.3	4.3	3.4	2.6	3.3	5.4
	1971	30.8	8.5	6.3	4.9	3.9	3.3	3.6	6.3
	1972	29.3	8.2	5.5	4.5	3.5	3.3	3.7	5.9
	1973	26.6	7.0	5.1	3.7	3.1	2.8	2.8	5.3

APPENDIX J (continued)

	Year	19 and Under	20 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 and Over	Total
Other Males	1967	48.9	8.0	4.4	3.1	3.4	4.1	5.1	6.0
	1968	45.6	8.3	3.8	2.9	2.5	3.6	4.0	5.6
	1969	43.7	8.4	3.4	2.4	2.4	3.2	3.2	5.3
	1970	50.9	12.6	6.1	3.9	3.3	3.4	3.8	7.3
	1971	59.4	16.2	7.4	4.9	4.5	4.7	3.4	9.1
	1972	61.3	14.7	6.8	4.8	3.8	3.6	6.9	8.9
	1973	56.5	12.6	5.8	4.0	3.2	3.1	3.6	7.6
Other Females	1967	58.3	13.8	8.7	6.2	4.4	3.4	3.4	9.1
	1968	59.9	12.3	8.4	5.0	3.2	2.8	2.4	8.3
	1969	56.9	12.0	6.6	4.5	3.7	2.9	1.1	7.8
	1970	69.8	15.0	7.9	4.8	4.0	3.2	1.9	9.3
	1971	72.2	17.3	10.7	6.9	4.2	3.5	3.9	10.8
	1972	77.0	17.4	10.2	7.2	4.7	4.0	2.0	11.3
	1973	69.8	17.6	9.7	5.3	3.7	3.2	3.9	10.5

[a] United States Department of Labor, Manpower Report of the President: Including Reports by the U. S. Department of Labor and the U. S. Department of Health, Education, and Welfare. (Washington: U. S. Government Printing Office, 1974), Table A-16, pp. 273-274.

APPENDIX K

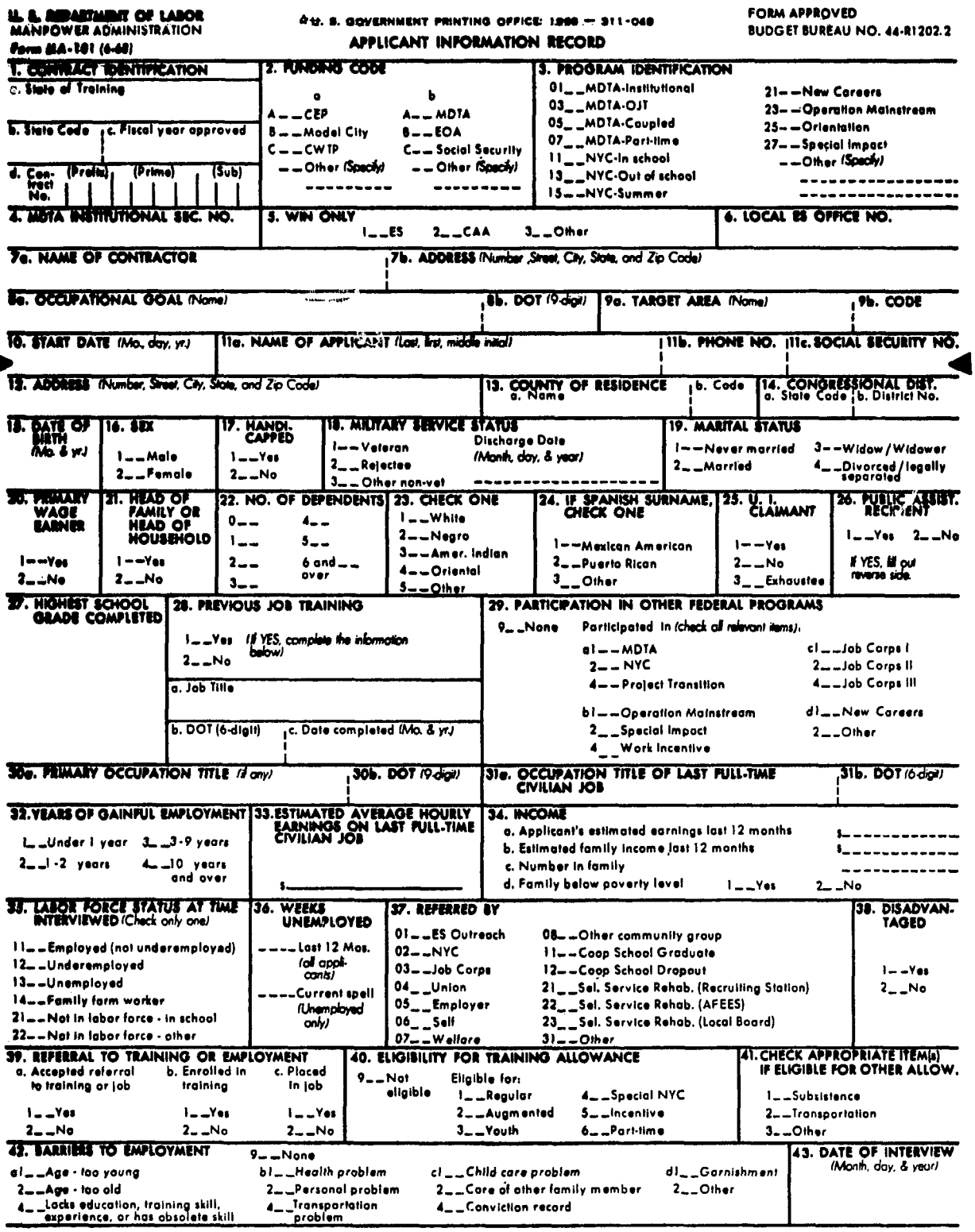
Average Hourly Salary Increases for Hourly Paid Workers in North Carolina from 1967 through 1973[a]

Year	Percent of Increase
1967	6%
1968	8%
1969	6%
1970	5.2%
1971	5.4%
1972	5.5%
1973	5.5%[b]

[a] The North Carolina Department of Labor, Biennial Report of the Department of Labor, ed. by The Information Service, (Raleigh: The North Carolina Department of Labor, 1973), p. 110.

[b] Increase for 1973 was estimated by the North Carolina Employment Security Commission, Raleigh, North Carolina.

APPENDIX L



U. S. DEPARTMENT OF LABOR
MANPOWER ADMINISTRATION
Form MA-101 (6-68)

U.S. GOVERNMENT PRINTING OFFICE: 1968 — 311-048

FORM APPROVED
BUDGET BUREAU NO. 44-R1202.2

APPLICANT INFORMATION RECORD

1. CONTRACT IDENTIFICATION
c. State of Training
b. State Code | c. Fiscal year approved
d. Contract No. (Prefix) (Prime) (Sub)

2. FUNDING CODE

a	b
A__CEP	A__MDTA
B__Model City	B__EOA
C__CWTP	C__Social Security
__Other (Specify)	__Other (Specify)

3. PROGRAM IDENTIFICATION
01__MDTA-Institutional
03__MDTA-OJT
05__MDTA-Coupled
07__MDTA-Part-time
11__NYC-In school
13__NYC-Out of school
15__NYC-Summer
21__New Careers
23__Operation Mainstream
25__Orientation
27__Special Impact
__Other (Specify)

4. MDTA INSTITUTIONAL SEC. NO.

5. WIN ONLY
1__ES 2__CAA 3__Other

6. LOCAL ES OFFICE NO.

7a. NAME OF CONTRACTOR

7b. ADDRESS (Number, Street, City, State, and Zip Code)

8a. OCCUPATIONAL GOAL (Name)

8b. DOT (9-digit)

9a. TARGET AREA (Name)

9b. CODE

10. START DATE (Mo., day, yr.)

11a. NAME OF APPLICANT (Last, first, middle initial)

11b. PHONE NO.

11c. SOCIAL SECURITY NO.

12. ADDRESS (Number, Street, City, State, and Zip Code)

13. COUNTY OF RESIDENCE a. Name | b. Code

14. CONGRESSIONAL DIST. a. State Code | b. District No.

15. DATE OF BIRTH (Mo. & yr.)

16. SEX
1__Male
2__Female

17. HANDICAPPED
1__Yes
2__No

18. MILITARY SERVICE STATUS
1__Veteran
2__Rejectee
3__Other non-vet
Discharge Date (Month, day, & year)

19. MARITAL STATUS
1__Never married
2__Married
3__Widow / Widower
4__Divorced / legally separated

20. PRIMARY WAGE EARNER
1__Yes
2__No

21. HEAD OF FAMILY OR HEAD OF HOUSEHOLD
1__Yes
2__No

22. NO. OF DEPENDENTS
0__ 4__
1__ 5__
2__ 6 and__
3__ over

23. CHECK ONE
1__White
2__Negro
3__Amer. Indian
4__Oriental
5__Other

24. IF SPANISH SURNAME, CHECK ONE
1__Mexican American
2__Puerto Rican
3__Other

25. U. I. CLAIMANT
1__Yes
2__No
3__Exhaustee

26. PUBLIC ASSIST. RECIPIENT
1__Yes 2__No
If YES, fill out reverse side.

27. HIGHEST SCHOOL GRADE COMPLETED

28. PREVIOUS JOB TRAINING
1__Yes (If YES, complete the information below)
2__No
a. Job Title
b. DOT (6-digit) | c. Date completed (Mo. & yr.)

29. PARTICIPATION IN OTHER FEDERAL PROGRAMS
9__None
Participated in (check all relevant items):
a1__MDTA
2__NYC
4__Project Transition
b1__Operation Mainstream
2__Special Impact
4__Work Incentive
c1__Job Corps I
2__Job Corps II
4__Job Corps III
d1__New Careers
2__Other

30a. PRIMARY OCCUPATION TITLE (If any)

30b. DOT (9-digit)

31a. OCCUPATION TITLE OF LAST FULL-TIME CIVILIAN JOB

31b. DOT (6-digit)

32. YEARS OF GAINFUL EMPLOYMENT
1__Under 1 year 3__3-9 years
2__1-2 years 4__10 years and over

33. ESTIMATED AVERAGE HOURLY EARNINGS ON LAST FULL-TIME CIVILIAN JOB
$_____

34. INCOME
a. Applicant's estimated earnings last 12 months $_____
b. Estimated family income last 12 months $_____
c. Number in family _____
d. Family below poverty level 1__Yes 2__No

35. LABOR FORCE STATUS AT TIME INTERVIEWED (Check only one)
11__Employed (not underemployed)
12__Underemployed
13__Unemployed
14__Family farm worker
21__Not in labor force - in school
22__Not in labor force - other

36. WEEKS UNEMPLOYED
____Last 12 Mos. (all applicants)
____Current spell (Unemployed only)

37. REFERRED BY
01__ES Outreach
02__NYC
03__Job Corps
04__Union
05__Employer
06__Self
07__Welfare
08__Other community group
11__Coop School Graduate
12__Coop School Dropout
21__Sel. Service Rehab. (Recruiting Station)
22__Sel. Service Rehab. (AFEES)
23__Sel. Service Rehab. (Local Board)
31__Other

38. DISADVANTAGED
1__Yes
2__No

39. REFERRAL TO TRAINING OR EMPLOYMENT

a. Accepted referral to training or job	b. Enrolled in training	c. Placed in job
1__Yes	1__Yes	1__Yes
2__No	2__No	2__No

40. ELIGIBILITY FOR TRAINING ALLOWANCE
9__Not eligible
Eligible for:
1__Regular
2__Augmented
3__Youth
4__Special NYC
5__Incentive
6__Part-time

41. CHECK APPROPRIATE ITEM(s) IF ELIGIBLE FOR OTHER ALLOW.
1__Subsistence
2__Transportation
3__Other

42. BARRIERS TO EMPLOYMENT
9__None
a1__Age - too young
2__Age - too old
4__Lacks education, training skill, experience, or has obsolete skill
b1__Health problem
2__Personal problem
4__Transportation problem
c1__Child care problem
2__Care of other family member
4__Conviction record
d1__Garnishment
2__Other

43. DATE OF INTERVIEW (Month, day, & year)

APPENDIX M

D/L-D/HEW
Form MA-102 (8-69)

INDIVIDUAL TERMINATION/TRANSFER REPORT

Form Approved
Budget Bureau No. 44-R1204

1. NAME OF TRAINING FACILITY/CONTRACTOR | 2. ADDRESS (Number, Street, City, State, and Zip Code)

3. Soc. Sec. No. | 4. NAME OF TRAINEE | 5. ADDRESS (Number, Street, City, State, and Zip Code)

6. CONTRACT (PROJECT) IDENTIFICATION
a. Name of State
b. State Code | c. Fiscal year approved
d. Contract No. (Prefix) (Prime) (Sub) | e. Sec. No.

7. PROGRAM IDENTIFICATION

01	MDTA-Inst	21	New Careers
03	MDTA-OJT	23	Operation Main.
05	MDTA-Coupled	41	Other (Specify)
07	MDTA Part-time		
11	NYC In School		
13	NYC Out/School		
15	NYC Summer		

8. ATTENDANCE (Mo., day, yr.): a. First day | b. Last day
9. NO. OF CLASS DAYS: a. Attended | b. Missed
10. CLOCK HOURS ATTENDED
11. LAST SERVICE OR TRAINING COVERED BY THIS REPORT
12. WORK ASSIGNMENT (Omit for MDTA): Assignment | Location

13. TRAINING PHASE (For all relevant training)

		Clock Hrs.
01	Occupational	
02	Basic Education	
04	Pre-Vocational	
08	Emp. Skill/Orientation	
16	Other (Specify)	

14. SERVICES RENDERED (Omit for MDTA)

9	None
1	Counseling _____ No. of Clock Hrs.
2	Testing _____ No. of Clock Hrs.
01	Medical Examination
02	Medical Service
04	Dental Examination
08	Dental Service

15. NATURE OF TERMINATION

COMPLETED TRAINING OBJECTIVE	1	Full Course
	2	Early Completion
	3	Accepted Full-time job
DID NOT ACHIEVE TRAINING OBJECTIVE	4	Involuntarily dropped
	5	Voluntarily dropped
	6	Transferred to other MDTA training

16. REASON DROPPED (If voluntarily or involuntarily dropped, check the ONE most important reason below.)

01	Moved from area	05	Pregnancy of trainee	09	Lack of progress or interest	13	Quit school (Omit for MDTA)
02	Returned to school	06	Alcoholism, drugs	10	Poor attendance	14	Agreement terminated (Omit for MDTA)
03	Entered Armed Forces	07	Care of family	11	Misconduct	15	Unknown
04	Illness of Trainee	08	Died	12	Became ineligible (Omit for MDTA)	16	Other (Specify)

17. STATUS AT TIME OF TERMINATION (Complete A or B for all trainees)

A. Working or Scheduled to Report to:		B. Not Scheduled to Report to a Job, But:			C. Primary Workstation (Omit for MDTA)		
1	Training related job	3	Looking for work	5	Scheduled for more trng.	(1) Is trainee at previous workstation	(2) Employer is:
2	Non-training related job	4	Not looking for work	6	Not known	1 Yes	1 Public
EMPLOYER'S NAME AND ADDRESS						2 No	2 Private, nonprofit
							3 Private, for profit

18. CERTIFICATION BY TRAINING FACILITY (FOR MDTA Trainees only)
This is to certify that the circumstances of termination for the trainee to whom this report refers are:
1 For Good Cause | 2 Not for Good Cause (Complete item 19)
a. FACILITY NAME AND ADDRESS
b. NAME AND TITLE OF AUTHORIZED OFFICIAL
c. SIGNATURE | d. DATE

19. REVIEW BY FACILITY OR DEPARTMENT HEAD (Complete for MDTA trainee if termination was Not for good cause; all other programs for each trainee.)
I have reviewed the circumstances surrounding the termination of the Trainee to which this report refers and have found them to be accurately described.
a. AGENCY NAME AND ADDRESS
b. NAME AND TITLE OF AUTHORIZED OFFICIAL
c. SIGNATURE | d. DATE

FOR USE BY SELECTION/REFERRAL OFFICE OR SPONSOR

20. ARE ALL PHASES OF TRAINING OR SERVICES TERMINATED IN THIS PROGRAM?
1 YES (If "Yes," enter 9-digit DOT Code for occupation listed in item 11) | DOT CODE
2 NO

COMPLETE BELOW IF ANY ADDITIONAL OR CONTINUING ACTIVITY IS SCHEDULED

21. PROGRAM IDENTIFICATION (Enter code from item 7 above or check applicable program)

	Program Identification Code				
27	Special Impact	37	Upward Bound		
29	Job Corps	43	Other (Specify)		
31	CEP				
33	WIN				
35	OIC				

Complete for MDTA Programs only

22. MDTA CONTRACT (PROJECT) IDENTIFICATION
a. State Name | b. State Code | c. FY Approved | c. Contract No. Prefix Prime Sub | e. Sec. No.
23. OCCUPATION | 24. DOT CODE
25. IS TRAINEE ENROLLED IN ADDITIONAL ACTIVITY? 1 Yes | 2 No (If "No," enter reason code from item 16 above) | 26. REASON CODE

STATE NAME AND CODE | OFFICE OR AGREEMENT NUMBER | DATE

APPENDIX N

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA

MANPOWER DEVELOPMENT AND TRAINING ACT
Referral Notice

Name _____ SSA No. _____ Project No. _____
Address _____ L.O. _____ RAR ☐
(Number) (Street) (City) (State) (Zip Code)

SELECTION & REFERRAL OFFICER

1. You have been selected to receive: ☐ training as a _____.
☐ non-vocational training.
For ____ weeks. Beginning _____ and ending _____.

2. You should report to begin training _____ (day) _____ (date) _____ (time).
Report to _____ (training official) at _____ (facility and location).

NOTE: If you cannot report as directed, notify this office immediately.

3. ☐ You may receive the following allowances during your training provided you meet the week-by-week eligibility requirements, as explained on the attached Form ES-950-C, Eligibility Requirements for Allowances.

☐ Regular training allowances. $ ____ per week plus $ ____ for ____ dependents.
☐ Youth training allowances. $ ____ per week.
☐ Training incentive payments. $ ____ per week plus $10 for expenses.
☐ Subsistence allowances. $ ____ per day when you are away from home overnight to attend training.
☐ Transportation allowances:

	One way	Round trip
Beyond commuting distance	$_____	$_____
Daily travel	$_____	$_____

☐ Your transportation allowance will be reduced by 5¢ per round trip (or $2.50 per week).

NOTE: As explained to you the amounts shown above may vary. You will be notified of any change in the amounts and duration of allowances payable.

4. ☐ You are not entitled to any of the above allowances.

Signature of Selection and Referral Officer | Date

APPLICANT

5. In consideration of my referral to training under the Manpower Development and Training Act, as indicated above, I agree to report to the training facility as assigned, attend regularly, and do my best to master the training and to complete the course. Upon completion of a course of vocational training, I agree to accept employment in the field for which trained in the _____ area. I understand that failure to enroll in the training to which I have been referred, or failure to complete the training without good cause, will result in my being ineligible for MDTA allowances for 1 year.

Signature of Applicant | Date

ADVANCE

6. I request advance payment of the following:
☐ Training allowance
☐ Subsistence allowance
☐ Transportation allowance

7. I authorize a deduction of $ ____ each week from my future allowance payments. I will repay any amounts not deducted.

8. Following amounts are approved:
$ ____ ☐ Check ☐ Cash
$ ____ ☐ ☐
$ ____ ☐ ☐

This applicant is not able to enter training without the advance payment(s).

Signature of Applicant | Date | Signature of S & R Officer | Date

Form ES-950-B
(Rev. 12/66)

APPENDIX O

RESEARCH MASTER CARD

Program Number and Name

Name of Trainee

Street Address

Town State Zip

Response Number _____

Training Allowance $ _____/week

Travel Allowance $ _____/ day

Item No.	CODE 1	2	3	4	5	6
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

EMPLOYMENT DATA

Job #	Company	Title	Date Began Work	Starting Salary	Present Salary	Date Left Job
First						
Second						
Third						
Fourth						
Fifth						
Present						