

## Chapter 1

### Introduction

During the last quarter of the 19<sup>th</sup> century, America attempted to provide a better public education while struggling between the demands of the tradition of a classical education and the increasing need for a practical education. Proponents of vocational education argued that a broader curriculum was needed to prepare students for the new industrial age. With only 8% of the youth graduating from high school during that period, Americans were distressed by the existing system and looked to vocational education for answers (Barlow, 1992).

The last quarter of the 20<sup>th</sup> century is again a time of challenge for America's public schools. Reports regarding the quality of education reflected a belief that America's schools were not preparing students to meet the demands of an educated society nor for employment in an informational age (National Commission on Excellence in Education, 1983). While practitioners were examining the need to reform public education, the role of vocational education was brought center stage by the passage of the 1984 Carl D. Perkins Vocational Education Act. In 1990 this act was reauthorized and was renamed the Carl D. Perkins Vocational and Applied Technology Education Act. The 1990 Act encouraged higher performance standards and equal access and called for new programs for delivering vocational education (U.S. Congress, 1990). Also calling attention to the need for a new commitment to education and preparation of a quality workforce were the Commission on the Skills of the American Workforce (1990), *America's Choice: High Skills or Low Wages!* and the release of the 1992 report of the Secretary's Commission on Achieving Necessary Skills (Hamby, 1992).

Once again, vocational educators responded affirmatively to the challenges emerging from the studies on education, and once again the federal government upheld its strong commitment to vocational education through yet another reauthorization of the Perkins Act, this time renaming it the Carl D. Perkins Vocational and Technical Education Act (American Vocational Association, 1998). As a result of this new legislation, vocational education will continue to be called upon to show evidence of the effects of its programs on participants to state and federal legislators as well as to the public taxpayers who desire documentation of the goals being achieved by vocational education.

In the past, states were required not only to produce annual reports in order to identify progress being made toward achieving stated objectives but also to use those reports as a diagnostic tool in planning and improving programs (Hayes, McQuat, & Wilder, 1985). To meet these requirements, each state developed its own method to collect information. In Virginia, two distinct types of follow-up data are collected. First, there are data that indicate the employment status of former students who are completers of vocational programs. Second, employers are asked to evaluate the training that their employees received while in school by comparing the performance of the vocational completers to the performance of employees without such preparation. Because vocational education should be continually connected to workplace needs, the follow-up studies are conducted each year (Selvin, Oaks, Hare, Ramsey, & Schoeff, 1990).

Information from the Virginia vocational education follow-up studies is used to: (a) plan budgets, (b) prepare planning documents to meet the state Standards of Quality, (c) supply vocational education enrollment data to agencies or individuals who request this information, and (d) determine financial disbursements of state and federal funds (Virginia Department of Education, 1998b). Local vocational educators utilize the data from these studies to enhance planning, increase program effectiveness, and evaluate training outcomes and employer satisfaction.

In the future, new indicators of student performance will include information about student attainment of state-established academic and vocational and technical skill proficiencies. They will also include indicators that evidence placement in, retention in, and completion of postsecondary education or advanced training, placement in military service, or placement and retention in employment. In addition, follow-up studies will be required to demonstrate student participation in and completion of vocational and technical education programs that lead to nontraditional training, employment, and retention (American Vocational Association, 1998).

Examining current career patterns of vocational course completers provides information which allows the vocational education community and persons responsible for educational programs to better meet the needs of students. Closer analyses of student follow-up data are not only important for the educational community but provide a foundation and a baseline for future study and a tracking mechanism for factors influencing career decisions of students. Furthermore,

counselors, teachers, administrators, and boards of education can benefit from receiving specific information on how Virginia students are participating in the workforce.

### Purpose of the Study

The public's perception that schools in Virginia and the nation are not adequately preparing students to move into the future is often echoed in the political arena. Reports since 1983 regarding the quality of schools and their impact on the future of students indicate that the nation is "at risk." Since the economic standing of not only our nation but nations throughout the world remains unstable, the training of future workers is more than just a mere technical concern (Selvin et al., 1990).

In *A Nation at Risk* (National Commission on Excellence in Education, 1983) concerns were voiced about the educational level of American students. Questions were raised about their abilities to compete on an international level. This report stated that the most valuable employee attributes are knowledge, the ability to learn, the ability to find and apply information, and technical skills. Overall educational concerns have now intensified and taken on new meaning in the state of Virginia, with the focus on having all students achieve higher levels of academic performance.

The 1996 Standards of Quality for Virginia Public Schools (Virginia Board of Education, 1996) clearly stated that local school boards shall implement "academic and vocational preparation for students who plan to continue their education beyond secondary school or who plan to enter employment." Because of this, policy makers, legislators, and school officials have turned their attention not only to increasing academic standards and the testing of the Standards of Learning, but also to the large numbers of "work-bound" students who do not immediately want to pursue higher education but instead choose to enter the labor market upon high school graduation.

In the past, success of vocational completers has frequently been measured by whether they are employed in jobs related to their vocational service areas and their performance in the workplace. However, not all vocational service areas have the same employment opportunities, especially where earnings are concerned. Participants from some program areas traditionally earn lower wages. Furthermore, during the early years of employment, some vocational completers are

employed full time while others may work part-time and attend school. All these factors should be taken into consideration when looking at program success indicators.

Virginia's vocational education programs serve students from many different backgrounds and from many different targeted populations. Some vocational completers are from service area programs intended for students with special needs and still other vocational programs are designed for students with disabilities. Students with disabilities may include individuals who are mentally retarded, hard of hearing, deaf, speech-impaired, visually handicapped, seriously emotionally disturbed, or who have orthopedic problems. Students with certain health impairments and individuals with specific learning disabilities are also included under disabilities (Virginia Department of Education, 1996b).

Other vocational students from specific targeted populations are categorized as "disadvantaged." The term disadvantaged refers to individuals other than "disabled" individuals who have economic or academic disadvantages and who require special services and assistance in order to succeed in vocational education programs. The designation of disadvantaged also includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency, and individuals who are identified as potential dropouts (Virginia Department of Education, 1996b).

Evaluating the success of these vocational completers in the workplace may require analysis of additional factors besides employment and earnings. In addition to the earnings data, indicators of performance and retention will be needed by Virginia in the future to meet Congressional mandates found within the 1998 Perkins Act. This law requires states to evaluate how the needs of special populations are being met and how programs are designed to enable special populations to prepare for further learning or high skill, high wage careers. States must report annually their progress in meeting these levels of performance. Such reports must include a "quantifiable description" of the progress being made by each state (American Vocational Association, 1998). A study of employment status, including that of targeted populations, as well as information about job satisfaction can help supplement earnings information when considering vocational program outcomes.

## Research Questions

The purpose of this study was to describe employment status, earnings, and job satisfaction outcomes of Virginia vocational completers. Included in the study was an analysis categorized by targeted populations. The terminology "targeted populations" was used to define individuals with disabilities, educationally and economically disadvantaged individuals, and individuals with limited English proficiency.

The categories of employment status studied included employment that was full or part-time, employment that was related or non-related to the vocational service area completed, and employment in an occupation that was traditional or nontraditional for the completer's gender. This study examined the answers to the following questions about vocational completers within one year following high school graduation:

1. What is the employment status of vocational completers as a group, by service area, and by targeted population?
2. What is the level of earnings of vocational completers as a group, by service area, and by targeted population?
3. What is the level of job satisfaction for vocational completers as a group, by service area, and by targeted population?

## The Significance of the Study

A key factor in developing successful vocational education programs is having current and accurate information regarding program outcomes. Data obtained in this study will be beneficial in strengthening the measures that are used to assess the effectiveness of the Virginia vocational education system and will also be useful to vocational teachers and guidance counselors as they tailor support services to meet the needs of their students who are making the transition to employment. In addition, these findings will provide a baseline for future studies investigating vocational completers' employment and retention.

## Delimitations

This study does not attempt to determine the economic level, labor market status, or the cost of living in those areas of the state in which the vocational completers live and work. It attempts only to identify the extent to which vocational completers were employed during their first year following graduation in order to set up a baseline for future research. The study focused

on the completer's employment status by examining whether vocational completers were working full or part time, whether they were in jobs related to their areas of vocational studies, and whether those jobs are considered to be nontraditional jobs for their gender. In addition this study examined vocational completers by their vocational service areas as well as by their membership in targeted populations.

This study also considered the vocational completers' level of earnings and satisfaction with different aspects of their jobs but, did not attempt to determine the importance of these indicators. It attempted only to identify the levels of wage and satisfaction experienced by vocational completers during the first year of employment following transition from school to work.

This study used the vocational follow-up data for 1996, 1997, and 1998 because of the availability of consistent information. This information was not a random sampling but rather all completers' information gathered during those three years was used. The three years chosen to study also shared a common thread of consistent economic growth across the nation.

#### Limitations of the Study

Because of the complexity of the vocational education system it is difficult to construct precise measures of the system's condition or of the interaction among its components. Criticism about the methodologies used to study vocational education programs has focused not only on the timing of follow-up studies (typically one year after completion) but also on the lack of recognition of other factors that may contribute to the desired outcomes (Campbell, Gardner, & Seitz, 1982; Gelb, 1979; Stone, 1988). No matter how broad the consensus about certain outcomes or conditions, without a nationally agreed-upon model that integrates the same features, statistics can provide only limited information (Oakes, 1986).

These data were not collected from a scientific sample and thus should be viewed carefully. All the variables measured in this study were self-reported and thus reflect the perspectives of the respondents. Every respondent did not answer every question and on some items individuals could mark more than one response.

By design, this study is restricted to the follow-up data of vocational completers during the first year following graduation. These data were collected in compliance with federal

requirements for performance measures for vocational education and have become a part of the state and local evaluation process for studying successful transition of vocational completers.

There are also limitations specific to the data collection techniques. Because the survey goal for the Vocational Education Student Follow-up was set at a 75% usable return rate, follow-up suggestions were given to participating schools in order to insure this high rate of return from their former students. Frequently local school divisions as well as the vocational instructors themselves made personal calls to participants and even gave the participants incentives if the survey form was returned on time (e.g. tickets to school events). The survey participants who responded to this request for data may have differed in some way from those who chose not to respond. Such a difference might have skewed the results.

Another limitation of this study is that it is strictly a descriptive study based on summarizing follow-up data of vocational completers. Follow-up evaluations are traditionally directed at people who have left the immediate focus of “treatment” (Morell, 1979). Information gained from the employers’ follow-up regarding the employers’ personal judgments and attitudes about vocational education will not be used in this study because not all vocational completers gave permission to contact their employer.

#### Definitions

To facilitate clarity, key terms have been defined.

##### Academically Disadvantaged

An academically disadvantaged student (a) scores below the 25th percentile on a standardized achievement or aptitude test, (b) receives secondary school grades below 2.0 on a 4.0 scale (where the grade A equals 4.0), or (c) fails to attain minimum academic competencies (Virginia Department of Education, 1998b).

##### Disabled

Students with disabilities include individuals who are mentally retarded, hearing impaired, deaf, blind, speech/language impaired, visually disabled, seriously emotionally disturbed, multidisabled, orthopedically impaired, or have other health impairments. Individuals who by reason of their disabilities have special learning problems and require special education are also classified as having disabilities in this study. Included in that classification are persons with autism, persons with traumatic brain injury, and persons who because of their disabled condition

(a) cannot succeed in the regular vocational education program without special assistance, or (b) require a modified vocational education program (Virginia Department of Education, 1998b).

#### Economically Disadvantaged

An economically disadvantaged family or individual (a) is eligible for Aid to Families with Dependent Children under Part A, Title IV of the Social Security Act, (b) is eligible for benefits under the Food Stamp Act of 1977, or (c) is eligible to be counted for purposes of Section 1005, Charter 1, Title 1 of the Elementary and Secondary Education Act of 1996 (Virginia Department of Education, 1998b).

#### Education For Employment (EFE or EFE/WECEP)

Education For Employment (EFE) is a vocational service area that prepares students with special needs for independent living and productive careers. Often EFE programs are teamed with Work Experience Cooperative Education Programs (WECEP) where students receive school-based and community-based instruction organized around an approved job that leads toward their career goals. WECEP is an on-the-job paid training program that is an extension of the classroom instruction coordinated by the classroom teacher into a coherent set of performance objective and skills.

#### Employment Status

Employment status is defined in this study to include full-time or part-time employment at the time of the follow-up, employment that is related or non-related to the vocational service area completed, and those employed in nontraditional areas of work. Full time employment status includes employed full-time, self-employed full-time, or in military service full-time. Part-time employment includes employed part-time, self-employed part-time, or military service part-time as in the Reserves.

#### Limited English Proficiency

A student with limited English proficiency (LEP) is a non-English speaking student or one who does not speak and understand the English language in an instructional setting well enough to benefit from educational programs to the same extent as a student whose primary language is English. LEP students may (a) not have been in the United States long or may have a native language other than English, (b) come from environments where a language other than English is dominant, (c) be American Indian or Alaskan native students and come from environments



where a language other than English has a significant impact on their level of English language proficiency, or (d) have sufficient difficulty speaking, reading, writing, and understanding the English language to be denied the opportunity to learn successfully in classrooms where the language of instruction is English or to participate fully in our society (Virginia Department of Education, 1998b).

#### Nontraditional Employment

Nontraditional employment is defined as an occupation in which 25% or fewer of the positions are held by one gender (Virginia Department of Education, 1998b).

#### Program Completer

A vocational completer is a graduate who completes a vocational program that includes a coherent sequence of vocational courses, as identified in the *Guide to Vocational Program Planning in Virginia: 1997-1998 School Year* (Virginia Department of Education, 1996b). The academic courses needed to graduate are identified in the Standards and Regulations for Public Schools in Virginia. Vocational completers must have completed the high school graduation requirements or have completed an approved alternative education program and also must have completed the vocational course sequence (Virginia Department of Education, 1998b).

#### Successful Transition

Successful transition was defined in this study as the placement of a vocational completer in some full-time activity such as paid employment (related or unrelated to the area of vocational study), postsecondary or continuing education, or combination of part-time activities totaling full-time equivalency. The standard currently set in Virginia is that 90% of secondary vocational program completers will make a successful transition (Virginia Department of Education, 1996a).

#### Targeted Populations

Targeted populations are defined as individuals with disabilities, educationally and economically disadvantaged individuals, and individuals with limited English proficiency.

### Summary

Chapter 1 of this study reviews the importance of vocational education evaluations and explores both the practical and legislative bases for the follow-up studies of vocational completers. It also examines how Virginia has responded to the need for evaluation and the

model used in collecting follow-up data. This chapter includes a discussion of the importance of the evaluation system in an attempt to link relevant evaluation to the future planning process of education. The significance and the limitations of the study are also reviewed.

In Chapter 2 the nature and scope of the research problems are presented through a review of the relevant literature linking vocational education, employment and wage, and employment satisfaction. Such linkages are particularly critical in vocational education since this field must consistently meet the challenges posed by rapidly changing technology, global economic and vocational demands, and the future needs of the student population.

Chapter 3 describes the research methodology used in analyzing the data from the follow-up surveys. The results obtained from examining these data are presented in Chapter 4. Chapter 5 includes the conclusions of this study, implications for improved practices, and recommendations for further research.

## Chapter 2

### Literature Review

Literature related to the evaluation of vocational programs provides the research base for this study. The main categories within this review are vocational program evaluation, legislation related to education and employment, employment status of youth, earnings, employment satisfaction, vocational service areas, and targeted populations.

#### Vocational Program Evaluation

A primary foundation for this study is provided by the literature and knowledge base related to the evaluation of vocational education. Since the passage of the Vocational Education Act of 1963, evaluation of vocational education programs has been a continuing process. Evaluation of programs serves many different purposes. Two of the most important purposes for evaluation of vocational education are to ensure the accountability of expenditures and to provide a framework for program improvement (Wentling, 1980).

Traditional accountability, which focused on ensuring that state boards and local recipients of federal funds expended moneys in ways consistent with the purposes of the funding legislation, became secondary with the reauthorization of the Carl D. Perkins Vocational and Applied Technology of Education Act of 1990. This act brought increased attention to accountability through documentation of program outcomes with emphasis on student follow-up studies. The intent of these changes was to ensure that educational efforts were indeed achieving their intended impact. The 1990 Perkins Act requirements for performance measures and standards were meant to strengthen local accountability and to reassure critics that the legislative supporters of vocational education were serious about quality. While Congress did not plan to set itself up as a remote judge of local vocational programs, it did want to create a framework of processes that would guarantee that quality issues received due attention at the local and state levels (Hill, Harvey, & Praskac, 1992).

Because of demographic and social changes, the need for accountability is again being raised in most dialogues about education today. Legislators, taxpayers, and educators are calling for increased accountability for all educational programs, including focusing on academic requirements within vocational programs, by setting higher expectations for students while

increasing access for women, minorities, and people with disabilities. This demand for accountability requires coordination and leadership from state officials as well as from the vocational community (McDonnell & Grubb, 1991).

Regarding state leadership, it is wise to keep in mind that potentially serious problems may arise in basing educational policy on accountability measures set at state or national levels. According to Stecher and Hanser (1992), programs that appear to implement policies made at state and national levels may be inappropriate when implemented at the local level. An example would be the implementation of statewide occupational programs based upon demand data from one area in the state where a specific training program is needed without being sensitive to local variations in job shortages and workforce needs. That is why the Carl D. Perkins Vocational and Applied Technology Act of 1990 attempted to promote both state and local accountability, placing with the states the final responsibility for establishing measures and standards and for ultimate program supervision after placing initial responsibility at the local level for program evaluation and improvements (Stecher & Hanser, 1992).

#### State Evaluation Studies

In an attempt to understand some state and local accountability systems, case studies were developed in several states, including both urban and rural areas. Research by Hill, Harvey, and Praskac (1992) included the states of Maryland, Pennsylvania, Ohio, New York, Oklahoma, and Indiana. The conclusions of the study stated that all educational outcomes are products of multiple causation and that outcome data must be interpreted in light of other information about students. That information should include the characteristics and prior educational preparation of the students, the quality of educational programs that supplemented the vocational program, and local labor market conditions. Test scores, graduation rates, dropout rates, and student placement results can be affected by other conditions independent of the quality of preparation and instruction students have received. The Hill et. al (1992) study recognized that the outcomes of primary interest in vocational education also are affected by local labor markets. Vocational education students' job placement rates, hours worked, income, and rates of career progression can be affected profoundly by the demand for particular kinds of labor, which, in turn, is decided by the current level and composition of local economic activity.

Similarly, a study examining the effectiveness of methods and techniques used for vocational student placement and follow-up in Florida's public schools was carried out by the Florida State Advisory Council on Vocational and Technical Education (1984). Researchers interviewed approximately 40 persons having statewide knowledge of or involvement with vocational education placement and follow-up. They also surveyed local level personnel involved in these procedures and mailed questionnaires to representatives of area school districts and community colleges. Most respondents agreed that local labor market conditions should be considered when interpreting the results of vocational student follow-up studies. It was also concluded that longitudinal studies should be conducted to follow-up vocational completers. A primary suggestion for a longitudinal study was to use unemployment insurance data to assist in collecting placement and follow-up data of completers in the future (Florida State Advisory Council on Vocational and Technical Education, 1984).

In response to that suggestion, Florida did begin to use unemployment insurance wage record files to match vocational completers' records with wage records for individuals who were in higher education, in correctional institutions, and employed in federal agencies such as defense, personnel management, and the postal service. Since the Florida study, other states have responded to additional demands for accountability in some of their state employment programs by using the unemployment insurance wage reporting system. A research study was done in thirteen states to explore the feasibility and utility of using the unemployment insurance wage record system as part of their follow-up process. Each of the states studied used the unemployment insurance wage records in order to gain a better picture of the state employment and earnings history and to strengthen their assessment programs (Jarosik & Phelps, 1992).

Virginia was among the thirteen states taking part in the Jarosik and Phelps (1992) study. In Virginia the unemployment insurance wage and tax files as well as social security numbers of community college graduates had been used by the Virginia Employment Commission and the Virginia Community College System in analyzing education and training outcomes across several agencies, including the Department of Labor, higher education, community colleges, and corrections. Approximately 15,000 students representing 68% of the Virginia community college system completers were used in this tracking procedure. Earnings data were reported by curriculum area and by sex, race, and age of the graduates. The service areas studied were

engineering and industrial technology, public service technology, health, business, college transfer, art and design, and agricultural and natural resources. The majority of the graduates whose records were found within the data bases studied were found to be female. This study also reported that the average total wage was highest for the engineering and industrial technology group, reporting an average annual income of \$24,260. The agricultural and natural resources graduates had the lowest level of earnings at \$16,071 (Jarosik & Phelps, 1992).

Several groups of workers are not included in studies that use unemployment insurance wage records. Those excluded are workers who are self-employed, railroad employees, some agricultural workers, and employees of some nonprofit organizations (National Governor's Association, 1992).

#### Legislation Related to Education and Employment

The 1990 Carl D. Perkins Vocational and Applied Technology Education Act was intended to assist states and local schools in teaching the skills and competencies necessary to work in a technologically advanced society for all students. A major goal of this law was to provide greater vocational opportunities to disadvantaged persons. One of the main purposes of the 1990 Perkins Act was to make the United States more competitive in the world economy by developing more fully the academic and occupational skills of all segments of the population. Targeting programs with high concentrations of students in special populations areas was part of a main thrust of the 1990 Perkins Act (West & Meers, 1992).

Under the new act, the Carl D. Perkins Vocational and Technical Education Act of 1998, each state is required to provide educational services and activities designed to meet the special needs of and enhance the participation and work retention of : (a) individuals with disabilities, (b) disadvantaged individuals, (c) adults who are in need of training and retraining, (d) individuals who are single parents or homemakers, (e) individuals who participate in programs designed to eliminate sex bias and stereotyping in vocational education, and (f) criminal offenders who are serving in correctional institutions. States may submit unified plans for job training, adult education, and vocational education. A small percentage of the Perkins funds (0.54%) are set aside for incentive grants. These grants will be awarded by the Secretary of Labor to states who exceed their performance levels for all three programs (American Vocational Association, 1998).

### Job Training Partnership Act

One part of the workforce development system that focuses on the economically disadvantaged populations consists of programs funded by the Job Training Partnership Act (JTPA). The purpose of the JTPA is to establish programs to prepare youth and adults facing serious barriers to employment for participation in the labor force by providing job training and other services that will result in increased employment and earnings, increased education and occupational skills, and decreased welfare dependency, thereby improving the quality of the work force and enhancing the productivity and competitiveness of the nation. Although the Employment and Training Administration (ETA) has not established specific performance measures for directly evaluating the JTPA's progress towards accomplishing the goal of "decreased welfare dependency," employment and earnings measures for program success have been established. The ETA's position is that employment and earnings are key to the success of the program (U. S. Department of Labor, Office of Inspector General, 1998).

### School-to-Work Opportunities Act

The Perkins Act is not the only legislation that directly affects employment transitioning for special populations. The School-to-Work Opportunities Act of 1994 (SWOA) is a joint initiative between the Departments of Labor and Education. This act is part of a larger initiative for comprehensive education reform which also includes Goals 2000: Educate America Act and the National Skills Standards Act of 1994.

The SWOA established a national framework for all states. This act called for major restructuring and significant systemic changes that facilitate the creation of a universal, high quality school system that enables all students in the United States to successfully enter the workplace. The SWOA made specific references to students with disabilities. Two of the statements in the purpose of the SWOA were to:

(11) to motivate all youth, including low-achieving youths, school dropouts, and youths with disabilities, to stay in or return to school or classroom setting and strive to succeed, by providing enriched learning experiences and assistance in obtaining good jobs and continuing their education in postsecondary educational institutions: and

(12) to increase opportunities for minorities, women and individuals with

disabilities, by enabling individuals to prepare for careers that are not traditional for their race, gender, or disability (U.S. Congress, 1994, p. 6).

The purpose of these two statements was to emphasize the importance of ensuring all students' employment opportunities. It was the intent of Congress, as outlined in Section 3 of the act, that each state and locality design and implement a system that fully includes and addresses the needs of all students (National Transition Network, 1994).

The emphasis in SWOA is not just on vocational education changing from its traditional goals of teaching skills that are prerequisites to entry-level jobs. Rather the emphasis is on the work place and the need to combine experiences in education and work-based learning. Importance is placed on using work places as active learning environments in the educational process by making employers joint partners with educators in providing opportunities for all students (Gray & Herr, 1995).

#### Fair Labor Standards Act

In 1938, the Fair Labor Standards Act established the first federal minimum wage at 25 cents an hour. The minimum wage had gradually increased to \$4.25 an hour by 1991. By 1996, approximately 10 million American workers were earning between \$4.25 and \$5.14 per hour. The minimum wage law now applies to businesses that report at least \$500,000 in business each year. It also applies to employees of smaller firms if the employees are engaged in interstate commerce or in the production of goods for interstate commerce (U.S. Department of Labor, Bureau of Labor Statistics, 1998).

In September 1997, the minimum wage increased to \$5.15 an hour. This wage increase was authorized in the Fair Labor Standards Act (FLSA). FLSA also contained a number of exemptions from the minimum wage that may apply to some teenage workers. The 1997 law established a youth sub-minimum wage of \$4.25 that employers can pay employees under 20 years of age during their first 90 consecutive calendar days of employment. The youth sub-minimum wage was not affected by the September 1997 increase (U. S. Congress, 1997).

The FLSA provided for the employment of certain individuals at wage rates below the minimum. Such individuals include student-learners (vocational education students), as well as full-time students in retail or service establishments, agriculture, or institutions of higher education if the school or employer has been authorized under a special minimum wage



certificate. Also included are individuals whose earning or productive capacity is impaired by a physical or mental disability which interferes with the work to be performed, including those related to age or injury. Employment at less than the minimum wage is provided for in order to prevent curtailment of opportunities for employment. Such employment is permitted only after approved certificates are issued by the Wage-Hour Division of the Department of Labor.

#### Employment Status of Youth

One frequently heard criticism of the educational system is that it fails to provide a smooth transition from school to work for those students who proceed directly from high school to the labor market. Such graduates are often thought of as moving in and out of the labor force, holding numerous short-term jobs, and experiencing interspersed periods of non-employment. In a report that explored whether this criticism of youth was accurate, Klerman and Karoly (1995) conducted a study of data from the National Longitudinal Survey-Youth (NLS-Y). Studied were the number of jobs held and the amount of time spent in the job. They did not examine any characteristics of those jobs (e.g., wage or other aspects of job quality). Their findings pointed to a period of “settling down” and indicated that the length of time that it takes to reach tenure on a job or find stable employment often depends on the age at entrance into the first job. They found that young men held a larger number of jobs in their first few years in the labor force and that the typical male high school graduate did not settle into a long-term job until his mid-twenties.

In a monthly survey conducted for the Bureau of Labor Statistics (U.S. Department of Labor, Bureau of Labor Statistics (1998), about 50,000 households are surveyed. One area of data relates to the school enrollment status of persons 16 to 24 years of age in the civilian non-institutional population. The interviews that took place in October 1998 found that 67% of 1997 high school graduates were enrolled in colleges or universities. This figure had risen by 5% from 1996 to 1998.

Information also showed that in the group of out-of-school youth, the unemployment rate for those who had not graduated was nearly 20%, compared with 11% for those with a high school diploma. Four out of five recent high school graduates not enrolled in college were in the labor force, about the same proportion as the graduates attending college part time. The unemployment rate of the non-students, however, was twice that of the part-time college students, 17% compared with 8% (U.S. Department of Labor, Bureau of Labor Statistics (1998).

## Nontraditional Employment

The term “nontraditional employment” means occupations, including careers in computer science, technology and other emerging high skill occupations, for which individuals from one gender comprise less than 25% of the individuals employed (American Vocational Association, 1998). Enrollment in vocational courses tends to be gender-linked, with males concentrated in trade and industry, agriculture, and technical programs, and females concentrated in business, health, and family and consumer sciences. Marketing is the only service area that typically has a balanced enrollment. More males are taking business courses, but female enrollments have not grown as much in traditionally male fields (Boesel, Hudson, Deich, & Masten, 1994).

The changing roles of women and the growing number who head households signal a need to provide all women with the best possible education. Culver and Burge (1989) reported that the introduction to work that vocational education programs provide is a direct link in the elimination of sexist thinking and attitudes. Lasonen (1990) suggested that when instructors exhibited less traditional bias in their classroom behavior, students were more likely to be less prejudiced and to consider nontraditional occupational training.

Female workers constitute one of the fastest growing segments of the labor force. Employment in nontraditional jobs offers women the potential for work in the primary sector of the economy where jobs are more likely to command higher wages, greater benefits, a wider variety of work schedules, and greater job security. Additionally jobs in these nontraditional areas may be more personally satisfying than many of the traditional jobs occupied by women (U.S. Department of Labor, U.S. Women’s Bureau, 1996).

## Earnings

It has long been apparent that benefits of education result in increased employment opportunities and earnings. Horace Mann (1842/1971) argued that a positive financial benefit of learning was one reason for the public to support education in the nineteenth century. He described education as “not only a moral renovator and multiplier of intellectual power, but also the most prolific parent of material riches” (Mann, 1842/1971, p.147). Since the beginning of this century, vocational education supporters have stressed the value of learning to earn a living. Research about the relationship between schooling and employment has consistently found that

additional schooling increases earnings (Leslie & Brinkman, 1988; Rumberger & Daymont, 1984), confirming what earlier educators presumed.

As reported in *The Forgotten Half* (William T. Grant Foundation, 1988) data has begun to appear revealing what is now called the wage gap. In the years from 1979 to 1987 younger male workers with a high school education and less experienced workers saw a sharp fall in pay, and the gap between their earnings and those of younger college graduates tripled. By 1990 analysts were predicting that in the future most occupations would require employees with strong reading ability, knowledge of science and technology, and problem solving capability (Selvin, Oakes, Hare, Ramsy, & Schoeff, 1990).

During the 1980s the nature of beginning jobs shifted. Jobs consisting of routine steps that could be performed by high school graduates began disappearing. Many of the new, upgraded jobs paid a living wage, but not many high school graduates could do this type of work. They were left with the remaining routine jobs, usually at low wages. In *Teaching the New Basic Skills* (1993), Richard Murnane, an economist at Harvard's Graduate School of Education, and Frank Levy, an academic economist from the Massachusetts Institute of Technology, identified six skills that all high school students need to make a decent wage: reading at a ninth-grade level; doing math at a ninth-grade level; problem solving; communicating both orally and in writing; using a computer for word processing; and the ability to collaborate in diverse groups.

Murnane and Levy (1993) analyzed wage data from the high school classes of 1972 and 1980. They examined the differences fundamental to the wage-gap of high school versus college as well as the impact of reading skills and math skills among the class members who did not go on to college. Two years out of school the workers with only a high school education demonstrated little variation in their wages. Six years after graduation, however, their earnings had begun to show a major change. Moreover, the high earners proved to be those who got high test scores in high school and the low earners were those who got low scores while in school.

Hotchkiss, Kang, and Bishop (1984) studied labor market success and found that it is very desirable for high school students who are not planning to attend college to combine vocational and academic course work in order to maximize earnings. They stated in their findings that the single most appropriate measure of labor market outcome was earnings.

A four-year longitudinal study of 1,000 adolescents showed that increasing numbers of students are working during their high school years, and that they are working long hours. Students move from less complex work to more complex work and are receiving increasing amounts of training from their employers. In general, the students described their jobs favorably, and the females were more positive about their jobs than the males. Overall, they felt that they were paid well; substantial numbers perceived opportunities for advancement; and the majority were highly secure in their work (Mortimer, Finch, Dennehy, Lee, & Beebe, 1994).

Vocational completers may describe their jobs favorably and indicate satisfaction with their earnings, but it is important to keep in mind that the ranges of earnings may be different among vocational service areas.(Hill et. al., 1992). The Bureau of Labor Statistics cooperates with state employment agencies to collect data each month on employment, hours, and earnings. The March 1999 sample included about 390,000 individuals reporting average earnings in Table 1.

In addition to all of the other issues effecting earnings is the demographic makeup of a job. Nontraditional employment affects earnings of both males and females. However, most discussions about nontraditional employment tend to focus on workplace equity issues when females are choosing occupations that are nontraditional. Traditionally male occupations have been better paid, had more opportunities for advancement, and had greater status than have had those of women. Some problems also face males who are entering nontraditional employment. Young males are not typically encouraged to enter occupations that are traditionally occupied by women because nontraditional employment for males usually does not often bring better pay, or prestige (Herr, 1995).

In research on earnings, the gender of the wage-earner has played a consistent role in relationship to the level of wage (Norwood, 1982). Investigation of teenage wage differences confirmed a significant wage gap between adolescent males and females which mirrored the adult wage gap. Females on average earn less than their male counterparts (Endriss & Fromkin, 1980; D'Amico, 1984; Meyer, 1987).

In our society work inside and outside the home is very often separated by gender and consequently becomes characterized as either female or male work. This division of labor by gender produced many inequities because the domain of labor that was traditionally assigned to

Table 1  
Average Earnings for Varied Service Area Employment

Industry	Average hourly \$ earnings
Agricultural non-farm	9.95
Food products	11.80
Business retail	8.59
Business office	11.25
Health personal care	9.76
Hospital services	15.46
Marketing advertising	17.51
Marketing retail clothing	8.35
Technology computer repair	16.46
Information services	15.85
Auto repair	13.04
Mason	16.73
Cabinet maker	11.22
Cosmetology	9.40
Bakery	12.75
Hotel and motel services	8.92
Child care	7.89

Note. These data are based on average earnings across the U. S. not just on beginning wages (U. S. Department of Labor, Bureau of Labor Statistics, 1999).

women, primarily the home, did not include direct monetary rewards. Because the economy, rather than the family, makes up the central institution within our society, this gender labor division supports and reinforces inequities (Chafetz, 1988). Under this system most work within the domestic areas (nurturing and maintenance) became work for females and received lower monetary rewards. According to Chafetz (1988), women continue to perform work and fill roles that often offer unequal opportunities for advancement, power, and social support.

### Employment Satisfaction

It has been said that work determines a person's position and worth in a community. It is the foundation of one's identity and can provide a sense of well-being and satisfaction. Work establishes one's place in the global community. It links one person to another, advances the goals of a culture and of humankind, and gives purpose to one's existence (Rothman, 1987). Work is not only a means by which one defines oneself, but it is also part of the very fabric of society. Work affects and is affected by individual and cultural factors which in turn have educational, economic, and social implications for youth as they start their careers (Herr & Cramer, 1992).

Since selection of employment is such a significant part of one's future success, the literature reviewed in this category provides a background for understanding some factors that may impact on job satisfaction. It examines theory and research that address job satisfaction, family influence, and occupational choice as they contribute to shaping vocational outcomes.

### Studies Related to Job Satisfaction

Most individuals spend the largest part of their lives working. It is therefore not surprising that since Hoppock's monograph on job satisfaction in 1935, a substantial amount of research has been conducted about employment satisfaction. Although most people refer to being "satisfied" with a job as if it were a single variable, researchers have treated it as a rather complex set of variables (Super, Crites, Hummel, Moser, Overstreet, & Warnath, 1957). Some workers report that they are very satisfied with their supervisors, indifferent towards company policies, and very dissatisfied with their wages. Which one or combination of these factors represents their true level of satisfaction is unclear. Additionally, even though there is a large knowledge base regarding job satisfaction, there are still many unanswered questions about young workers and satisfaction.

For young workers particularly, outside social influences have an impact on the search for satisfying early employment. Biographical studies of individuals have often pointed to the social nature of the occupational choice process. Such data clearly point to the influences that can be exerted by key persons, especially parents, teachers, and peers. This suggests that satisfaction with early employment results in large part from socialization, which is influenced by parental occupation, gender, social class, and ethnicity ( Rosenberg, 1957; Rothman, 1987).

Understanding the factors which affect a person's job satisfaction/dissatisfaction therefore involves recognizing the impact of the opinions of others upon the individual worker. Important also is the worker's resulting opinion of job satisfaction which in turn impacts upon the lives of many other individuals, including co-workers, family members, and ultimately upon society as a whole.

Increasing productivity is a frequently reported reason for examining job satisfaction in young employees, based on the assumption that as job satisfaction increases, so too will productivity (Grunberg, 1979). According to Vroom (1964), peoples' desire to be productive in the workplace depends on their perception of the relative worth of their performance. It has been said that a person may use the amount of pay as an indicator of the esteem received from the employer, co-workers, or organization (Alderfer, 1972).

Acquiring a job and staying in it are often different matters. A study by Borman (1991) pointed out the importance of general support for young workers in our society. In the study of 25 men and women in their first jobs, Borman suggested the need for employers to improve working conditions for young employees, especially young women. The study profiled the 25 new workers as they found their place in the workforce during their first six months after high school. Several of the students studied had little opportunity for real success or job satisfaction. Borman's study provided a strong indication of the need for transitioning help for students as they enter their first real job.

The school-to-work transition of the nation's youth has been a major focus of vocational education for the past decade. Educators help students identify their interests and abilities and engage in career education in order to help with job satisfaction in the future. A study from the Florida Department of Education indicated that the biggest problem in career counseling is the ratio of students to counselors in their public schools. In the high schools that were studied the

ratio of students to guidance counselors was 300 to 1, and school guidance counselors spent less than one hour in every five in career counseling, severely reducing counseling effectiveness (Otto, 1989).

The research of Veum and Weiss (1993) indicated that inexperienced workers change jobs for a variety of reasons and that a certain amount of job mobility during their early years in the labor market is common among younger workers. For many young people information about how to find a job and the nature of employment are difficult to acquire. Some individuals get a job offer and remain in that job so long as the wage paid exceeds alternative wage offers. Individuals also move into and out of the labor market because of decisions relating to schooling, marital status, childbearing, or other factors.

Most employment-bound youth do not leave high school and instantly enter into steady employment with a firm that provides security and upward mobility. Instead for many the process of accessing and adjusting to the job market is lengthy and involves a definite period of time. The behavior of young workers changes over time, and most young employees will move from periods of casual fidelity to an increasing commitment and satisfaction in their work (Osterman, 1989). Many require help with this transition.

#### Family Influence on Employment and Satisfaction

In Way and Rossmann's (1996) national study of 1,266 high school seniors and 879 adult two-year college students, the students were asked about the effects of family structures on transition from school to work. The findings, based on examination of a series of structural models linking family attributes to transition readiness, suggested that the family does play a major role in the development of school-to-work transition. The day-to-day relationships within the entire family also play a role in developing a predisposition for both adults and children toward work satisfaction. Proactive family characteristics, such as being cohesive or expressive, taking part in family activities, and using democratic decision-making, contributed positively to work transition. Inactive family styles provided little toward the development of readiness for work transition. In an authoritarian style family, no contributions at all were made to school-to-work transition readiness, although this style did seem to be associated with adolescents' plans to continue some form of education beyond high school (Way & Rossmann, 1996).



Career development is both influenced by and influences economic factors. In a recent report of a longitudinal study of American families, *Succeeding Generations: On the Effects of Investments in Children*, Haveman and Wolf (1994) provided an in-depth view of the way in which the economic and social situation of parents impact the future work status of their children. Although the role of parents in children's academic achievement has been a topic in recent national debates and policies, little has been understood about the effects of parents and families in their children's preparation for work.

Several vocational psychology theorists have proposed that parents have an important influence upon their child's choice of a vocation. According to these theorists, parents influence their children by their attitudes and through their child's identifications with the parents (Brunkan, 1965; Picou & Carter, 1976). Super, Cites, Hummel, Moser, Overstreet, and Warnath (1957) suggested that identification with parents was a primary determinant of vocational choice. Kerckhoff and Huff (1974) found that parents did influence their children's scholastic goals, with evidence that direct goal transferal was stronger in older boys.

#### Occupational Choice and Impact on Satisfaction

In 1951, Ginzberg, Ginsburg, Axelrad and Herma presented a new psychologically based theory about careers. They studied occupational choice as a development process characterized by compromise because people must balance interests, aptitudes, and opportunity, and their findings were that this could be a lifelong process of decision making for those who seek major satisfaction from their work.

Other theories have encompassed a wide range of important career aspects. Super (1990) stated that work satisfactions and life satisfactions depend on the extent to which the individual finds adequate outlets for their abilities, needs, and values, and determined that work satisfaction is impacted by gender, socioeconomic status, race, and ethnicity. The basic theme of Super's career theory is that individuals choose occupations that will allow them to function in roles consistent with their self-concepts, and that self-concept is a function of developmental history (Hackett & Lent, 1992).

A study by Kotrlik and Harrison (1989) examined the career decision-making patterns of 3,858 high school seniors in Louisiana. In a closed-form questionnaire the study addressed the relationship between participation in vocational education and influence on student career

decisions. The findings offered insights into the persons and factors that influenced students in secondary vocational programs. The findings suggested changes that needed to be made in how vocational teachers worked with students and their career decision-making process. When student were asked about vocational teachers' effects on the students' career decisions, the impacts were determined to be low. The results did indicate that interest in working conditions, salary/wage, and personal satisfaction were the leading factors considered by Louisiana seniors when selecting a career.

#### Vocational Service Areas

Data support the conclusion that there are benefits from vocational programs which place students in the workplace while enrolled in school and provide supervision throughout the work experience. These benefits include more supervision on the job, more challenging tasks, and work that is more meaningful. Students also benefit by having jobs where they can learn responsibility and problem-solving. Most importantly, these students have a better perception of the relationship between school and work (Stone, Stern, Hopkins, & McMillion, 1990).

Although vocational education is often referred to as if it were one large program, it actually includes many different programs, called service areas, under one umbrella. A national study examined the patterns and classification of participation in and commitment to program completion by students in various vocational service areas. Program commitment was judged at three levels: (a) concentrators, (b) limited concentrators, and (c) incidental or personal use. The study found that 75% of the students participating in agriculture expressed high levels of commitment toward being an agricultural concentrator. Trade and industry students also indicated high levels of interest (81.5%) in becoming vocational concentrators. A lower percentage (46.5%) of students in business and office occupation courses indicated commitment to being concentrators in this area. Other service areas including marketing education, health, and family and consumer sciences did not have sufficient sample sizes to have any interpretive meaning (Campbell, Orth, & Seitz, 1981).

In 1988, Stone used the High School and Beyond data from a study completed by the National Center for Education Statistics in 1981 and found a definite connection between taking part in vocational marketing education and the development of work attitudes. In a regression analysis Stone found that several areas were significant in explaining increased self-concepts and

occupational aspirations for high school seniors. For seniors in marketing education, the development of positive work attitudes was related to fathers with lower levels of education and income, mothers with higher occupational status, being female, and having higher initial scores on the work attitudes scale which was taken during the 10<sup>th</sup> grade.

Using the same High School and Beyond data, Schmidt (1985) studied the relationship between participation in business education and cognitive development measures prior to graduation from high school. This data showed a positive association between increased course work in business education by non academic students and high scores on tests of cognitive ability.

### Targeted Populations

Vocational educators have made a positive contribution to the quality of living for individuals from special populations. In addition, vocational education programs have assisted with dropout prevention and have increased school-to-work transition opportunities for many completers who are identified as being in targeted populations. However, many students who are members of targeted populations finish high school each year only to be unemployed, on a long waiting list for assistance from adult services agencies, or in sheltered workshops without hope of being placed in competitive employment situations (Okolo & Sitlington, 1988). Targeted populations included in this study and literature review are students who are academically disadvantaged, are economically disadvantaged, have disabilities, have limited English proficiency.

#### Students Who are Academically Disadvantaged

Students who are classified as academically disadvantaged clearly complete more vocational education courses than do those not so classified. Students who are academically disadvantaged tend to focus their vocational courses in agriculture, occupational home economics, and the trades, while taking few courses in business, health occupations, or technical education (Boesel & McFarland, 1994). Low incidence of participation in high-quality vocational education programs that command a higher wage have been reported for academically disadvantaged students. Approximately half of all the vocational credits earned by females who are classified as disadvantaged are in low-level, service occupation courses or consumer and homemaking education (Wirt, 1994).

### Students Who are Economically Disadvantaged

Vocational educators have worked to ensure that adolescents who are economically disadvantaged are provided equal opportunities in participating in vocational programs. These economically disadvantaged students have been members of the targeted populations for special assistance in vocational education (U.S. Congress, 1990). They constitute almost one-quarter of the U.S. school population and educators are realizing the effect that poverty can have on their capabilities to learn (Kozol, 1991).

A study using data from the National Education Longitudinal Study examined secondary vocational education, work experiences, and postsecondary aspirations of high school seniors based on disadvantaged status. The study indicated that economically disadvantaged students with limited or no vocational involvement stated low educational and occupational aspirations. The study revealed that low socioeconomic circumstances may limit students' occupational experiences and aspirations by stereotyping employment possibilities (Rojewski, 1997).

### Students with Disabilities

D'Amico and Marder (1991) reported that students studied in the National Longitudinal Transition Study of Special Education Students indicated that an opportunity for advancement was important to their job satisfaction. They also found that one-third of the students who were employed from all the disability areas were making a minimum wage (which at that time was \$4.25 an hour). The earning rate wavered among disability classification but no more than 7% of the students from any disability category earned more than \$7.50 an hour. The picture presented of these students with disabilities was that many were engaged in part-time, low-skill jobs with little job security and little, if any, opportunity for advancement. D'Amico and Marder (1991) concluded that for non-college bound youth, the first few years after high school are often marked by frequent job hopping and periodic spells of unemployment. An increase from an employment rate of 50% during the first year to more than 67% employment during the second year suggested that a number of students with disabilities found their first job or reduced their turnover rate during the same period. Moreover, the youth in this five-year study voiced satisfaction with their jobs and with future opportunities for advancement. High school graduates who were seriously emotionally disturbed or mildly or moderately mentally retarded were less likely to be employed at the end of the second year of the study.

### Students with Limited English Proficiency

It is estimated that there are more than 10 million school-age students with limited English proficiency (LEP) within our nation's schools today. Throughout the population of the United States, persons with LEP comprise about 6.5 %, but they represent only 1% of the total vocational enrollment. This is an under representation of between 75% and 85% in most vocational areas (Lopez-Valdez,1984). Freidenberg (1987) conducted a one-year study of vocational programs with high numbers of LEP students. The results of this study indicated that most secondary school vocational and technical education programs have inappropriate recruiting and intake techniques, which limit access to these programs by students with LEP.

Students with LEP face a variety of problems. Language difficulties are the most obvious problem, but often their native customs are in direct conflict with what are considered good work habits. Despite the existence of several pieces of federal legislation that emphasize the right of LEP students to access vocational programs, enrollment figures are low and the necessary resources for successful participation in these programs are extremely limited (Friedenburg & Izzo, 1993).

### Summary

The 1990 Perkins Act prescribed the necessary criteria that states must adhere to in designing their accountability systems. This legislation also provided states with considerable freedom in developing and implementing systems that fit their individual needs. This review of relevant literature has highlighted evaluations of vocational programs and sources of influence on vocational program follow-up studies. It has also presented an analysis of earnings as a measure for vocational program success. Critical to a follow-up evaluation of vocational completers is a clear understanding of the laws that affect education and earnings, and literature in this area is reported. In judging the success of vocational programs, it is reasonable to expect that young people's orientation toward employment and employment satisfaction may reflect family perspectives and occupational choice, and studies of this topic have been presented in the review of literature.

## Chapter Three

### Research Methodology

The Carl D. Perkins Vocational and Applied Technology Act of 1990 required each state to design a state plan. This plan must include a strategy for an accountability system that includes performance measures for vocational education programs at the secondary and postsecondary level (U.S. Congress, 1990).

Vocational educators throughout the country collect data from their students who are in the workforce or enrolled in further education to provide evidence of the outcomes of their programs. In Virginia this data collection is accomplished by means of a vocational education student follow-up survey that determines the status of graduates approximately one year beyond the date of graduation. This study examines follow-up data gathered from vocational program completers under the 1990 Perkins Act to investigate and describe their employment status. This chapter explains the purpose, instrumentation, participants, research design, research procedures, and variables.

#### Purpose

The purpose of this study is to describe employment status, earnings, and job satisfaction outcomes for Virginia vocational completers. Included in the study was an analysis of targeted populations, defined as individuals with disabilities, academically and economically disadvantaged individuals, and individuals with limited English proficiency.

The categories of employment status studied included employment that was full or part-time, employment that was related or non-related to the vocational service area completed, and employment in both traditional and nontraditional occupations for the completer's gender. This study examined the answers to the following questions about vocational completers within one year following high school graduation:

1. What is the employment status of vocational completers as a group, by service area, and by targeted population?
2. What is the level of earnings of vocational completers as a group, by service area, and by targeted population?

3. What is the level of job satisfaction for vocational completers as a group, by service area, and by targeted population?

The process by which the follow-up data were used to answer the research questions is shown by a visual organizer in Figure 1. Composition of each of the categories used in the study is represented in Figure 2.

#### Instrumentation

Data for this study were collected via a Vocational Education Student Follow-up (VESF) survey developed for the Commonwealth of Virginia. This survey is part of the information-gathering component of the Virginia Vocational Education Management System (VEMS). The VEMS is part of Virginia's state plan of compliance for receiving federal funds under the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (section 114).

The vocational education student follow-up data are essential in reporting evidence of program effectiveness and in planning program improvements. The information gained from the surveys is intended to assist program planners at the state and local levels. The survey provides information about students' employment status, skills attainment, perceptions of the quality of their high school education, job satisfaction, education status, job title, and employer.

Because they were not collected from a scientific sample but rather as part of a six-year follow-up schedule, the data must be interpreted with caution. In examining the data it will become evident that the number of respondents changes depending on the question asked. Every question must be inspected individually. Every respondent did not answer every question and individuals could mark more than one response to some questions. As a result the number of responses changes with each question (Virginia Department of Education, 1998a).

Copies of the Vocational Education Student Follow-up surveys are attached as appendixes. The 1996 survey is Appendix A. The survey used in 1997 and 1998 is Appendix B. The surveys should be used to document the exact question asked or identify the exact response options that were available.

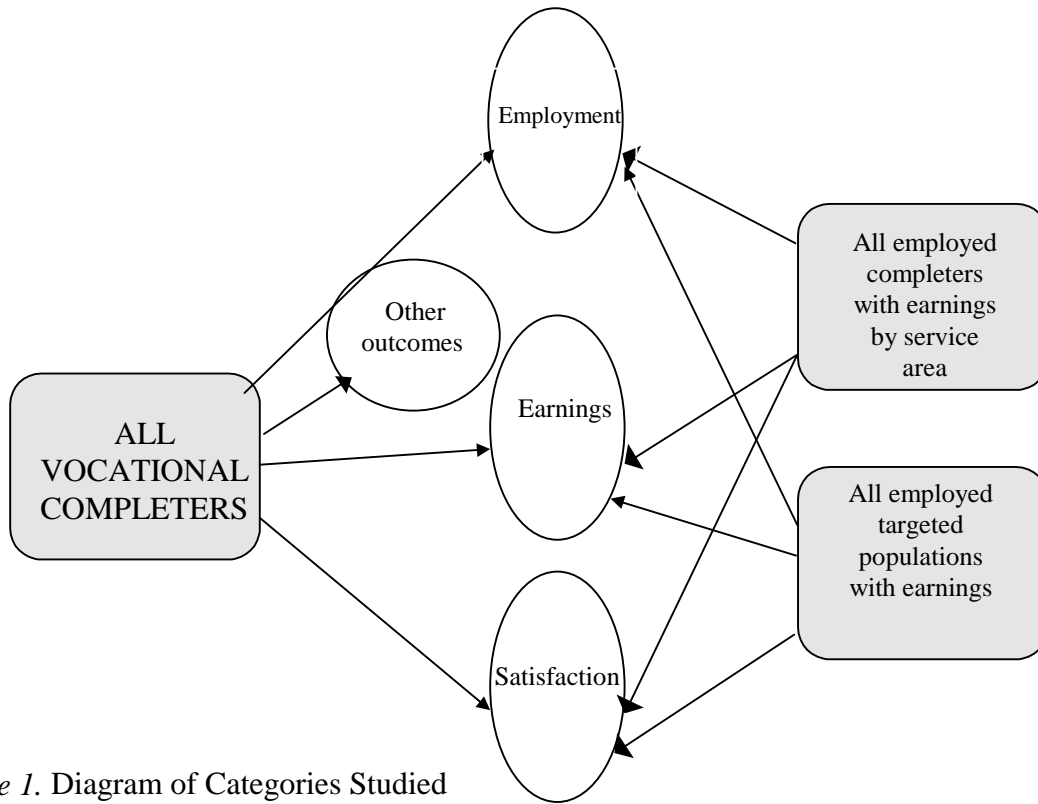


Figure 1. Diagram of Categories Studied

ALL VOCATIONAL COMPLETERS					Other Outcomes <sup>a</sup>
Vocational Completers With Earnings					
Service area	Targeted populations	Employment	Earnings	Satisfaction	
1. Agricultural education	1. Academically disadvantaged	1. Full or part time	1. Minimum wage & below	1. Salary	
2. Business education	2. Economically disadvantaged	2. Related to service area	2. Above minimum to \$6.50	2. Potential for advancement	
3. Education for employment	3. Disabled	3. Nontraditional employment	3. \$6.51 to \$8.00	3. Supervisor(s)	
4. Health occupations education	4. Limited English proficiency		4. More than \$8.00	4. Co-workers	
5. Marketing education				5. Company policies and practices	
6. Technology education				6. Working conditions	
7. Trade and industrial education				7. Work task assigned to you	
8. Work and family studies				8. Level of responsibility	
				9. Amount of work	
				10. Job security	

<sup>a</sup> Other outcomes are not reported in this study.

Figure 2. Composition of Categories



For the purposes of this study, three years of data collection results were used 1996, 1997, and 1998. During each year approximately one-sixth of the school divisions in the state are required to participate in the survey and several more school divisions volunteer to take part in the survey yearly. Also required to participate in the follow-up study every other year are schools designated as High Schools That Work sites. All schools that took part in the surveys are listed in Appendix C.

### Participants

The number of participants surveyed changed each year. The total numbers of participants taking part in the three years of follow-up surveys are listed in Table 2.

A program completer is defined by the VESF as a high school graduate who completes a vocational program that includes a coherent sequence of vocational courses. Those course sequences are identified in the *Guide to Vocational Program Planning in Virginia: 1997-1998 School Year* (Virginia Department of Education, 1996b). Vocational completers must have completed the high school graduation requirements or have completed an approved alternative education program and they also must have completed the vocational course sequence (Virginia Department of Education, 1998b). The VESF surveyed participants in all the program services: Agricultural Education, Business Education, Education for Employment, Health Occupations Education, Marketing Education, Technology Education, Trade and Industrial Education, and Work and Family Studies. A listing of all the participating vocational completers by service area, gender, and targeted populations can be found in Table 3.

### Research Design

The design employed in this study was descriptive. Descriptive research involves data collected in order to answer questions concerning the status of the sample being investigated. This type of study systematically describes the facts and characteristics of a given population or area of interest with a certain degree of accuracy (Isaac & Michael, 1990). The intent is to describe what exists concerning variables or conditions in a group of data (Ary, Jacobs & Razavieh, 1990).

Table 2  
Description of Virginia Vocational Completers Surveyed in 1996, 1997, and 1998

Year	Total completers surveyed	Total usable responses	Employed						
			Completers		Male completers		Targeted populations		
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
1996	5,508	3,046	55%	1,638	54%	1,269	77%	664	41%
1997	7,105	4,674	66%	3,020	65%	1,868	62%	1,060	35%
1998	6,703	4,168	62%	2,394	57%	1,527	64%	1,126	47%
Total	19,316	11,888	62%	7,052	59%	4,664	62%	2,850	38%

Note. Total completers reflects the total number surveyed. Percentages for employed completers are based on the total usable responses, not the total number of completers surveyed. Percentages for employed male completers and employed targeted populations are based on employed completers. Percentages have been rounded to the nearest whole number.

Table 3  
 Virginia Vocational Completers by Service Areas, Gender, and Targeted Populations

Service Areas	Total completers surveyed		Male completers		Targeted populations	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<b>Agricultural education</b>						
1996	377	7%	294	78%	124	33%
1997	522	7%	421	81%	144	28%
1998	352	5%	250	71%	94	27%
<b>Business education</b>						
1996	1,485	27%	446	30%	282	19%
1997	1,914	27%	498	26%	450	24%
1998	1,783	27%	579	32%	299	17%
<b>Education for employment<sup>a</sup></b>						
1997	76	1%	48	63%	62	82%
1998	27	0%	20	74%	20	74%
<b>Health occupations education</b>						
1996	198	4%	24	12%	73	37%
1997	283	4%	27	10%	67	24%
1998	147	2%	7	5%	31	21%
<b>Marketing education</b>						
1996	1,250	23%	550	44%	337	27%
1997	1,364	19%	570	42%	339	25%
1998	857	13%	351	41%	244	28%
<b>Technology education</b>						
1996	346	6%	287	83%	71	21%
1997	553	8%	460	83%	109	20%
1998	527	8%	474	90%	98	19%
<b>Trade and industrial education</b>						
1996	1,298	24%	948	73%	467	36%
1997	1,724	24%	1338	78%	519	30%
1998	1,300	19%	957	74%	335	26%
<b>Work and family studies</b>						
1996	554	10%	120	22%	194	35%
1997	665	9%	121	18%	278	42%
1998	730	11%	164	22%	189	26%
<b>Total</b>						
1996	5,508	100%	2669	48%	1,548	28%
1997	7,105	100%	3483	49%	1,960	28%
1998	6,703	100%	3308	49%	1,342	20%

Note. Total completers reflects the total number surveyed. Percentages of total completers is based on the total for each year. Percentages for males and targeted populations are based on the total number of completers in that service area. Percentages have been rounded to the nearest whole number.

<sup>a</sup> Education for Employment data were not available for 1996.

## Research Procedures

Each year the Office of Vocational and Adult Education Services (OVAES) of the Virginia Department of Education coordinates the follow-up of student completers in vocational education for the previous year. The survey is conducted at the local level with the OVAES providing guidelines for the implementation and survey forms to maintain statewide consistency of data collection. In January a letter is sent to all vocational directors in the state of Virginia from the OVAES. That letter identifies which school systems are required to take part in the follow-up study and invites school systems that are interested in the findings to volunteer to take part in the follow-up survey. Several school systems repeatedly volunteer to take part.

### Data Collection

The data collection process is handled by the Vocational Education Student Follow-up (VESF) office at Virginia Polytechnic Institute and State University. The principal investigator for the follow-up assessment is Dr. Patrick A. O'Reilly. Survey forms are sent to all responding school systems. Complete instructions on how the follow-up study should be conducted are also sent to the vocational directors for each responding school system.

Every effort is made to contact and collect information from all the vocational completers. In March a series of reminder postcards begins. They are sent to the vocational directors to keep the process on an exact time schedule. The first postcard is a reminder of the up-coming starting date for the mailed survey or telephone interviews (instructions indicate that either process may be used). The second mailing is a reminder and a thank-you card telling the vocational directors that the survey forms should be sent out and thanking them for their participation. The third post card announces the half way point in the survey that starts in mid-March and runs to May. The last postcard indicates that the time period for the survey is nearing an end.

A transmittal form is then sent to all the participating schools that says to stop collecting data and transmit the information. The transmittal form asks for information to be sent that includes the number of completers, the number of surveys that were returned undeliverable by the post office, the number of non-respondents, and the number of deceased students. All the

forms for each school are then sent to that school system's vocational director who in turn checks all the information. No data should be collected after May.

The follow-up survey form includes a section (question 8) which is coded by the vocational program teacher or other school personnel after the survey forms are returned to the school. Contained in this question is coded information about whether the completers were academically disadvantaged, economically disadvantaged, disabled, or had limited English proficiency. Also included is information related to whether completers were working in an area that was related or non-related to their vocational program. Because it is important for analysis, a survey form is required for each vocational completer. For individuals who do not return the survey, are deceased, or if the survey is undeliverable, complete demographic information is given by the personnel in participating school division.

At the end of May all this information is sent to the VESF office at Virginia Polytechnic Institute and State University. The VESF office personnel extract employer information from and conduct the employer follow-up. The VESF staff analyzes the results and submits the reports to the local school divisions and the Virginia Department of Education (C. Mabe, personal communication, November 6, 1998).

#### Group Preparation

Near the end of each school year the individual schools start working on the beginning process for the next year's follow-up survey of vocational completers. Personnel at school are asked to explain the collection methods to their students who will be included in the survey during the following year. This is done to encourage student participation and to emphasize to each student the importance of the study to his or her school. This explanation is most commonly handled by the individual vocational instructors for each program area.

Each school is instructed to explain to their students that the survey is not an evaluation of the student's personal performance but rather an opportunity for the student to provide information that could be used to help improve vocational programs. Schools inform the students that they will be asked to give the names and addresses of their employers on the follow-up survey. It is also explained that the employer will be contacted and asked questions about the education and training that the student received while in the vocational program and not about the student's personal performance.

Before the time of the survey, schools are encouraged to send out a postcard announcing the up-coming survey to each student. The suggestion is also made to place announcements in local newspapers about the importance of the survey and to give incentives for survey forms that are returned completed.

#### Data Related to the Research Questions

The purpose of descriptive research is to describe the characteristics of a group being studied (Ary, Jacobs, & Razavieh, 1990). Descriptive statistics such as frequencies, percentages and distributions, were used in describing the data findings.

#### Employment Status

The term “related employment” refers to employment of a graduate in which the job title is related to the vocational program completed. The judgment as to whether the job is related to the completer’s vocational area is made by the teacher or school administrator based on the name of the vocational program and the program code, and is coded as “E” on item 8 of the survey.

Question 7 on the survey addresses gender which was coded 1 for “Male” and 2 for “Female.” This question was used along with information received about the program code from question 5 on the survey to decide if completers were working in a job that is nontraditional for their gender. Nontraditional employment is defined as an occupation in which 25% or fewer of the positions are held by one gender (Virginia Department of Education, 1998b). Employment areas being considered as nontraditional for males and females in this study are listed in Appendix D.

#### Earnings

In Chapter 4 tables are presented to illustrate the characteristics of completers as they relate to each different level of earnings, reported as hourly wage. The wage categories used in the 1996 survey instrument (current hourly wages/salary) were: (a) Less than \$5.00, (b) \$5.01 to \$6.50, (c) \$6.51 to \$8.00, and (d) More than \$8.00. The survey instrument was changed for the years of 1997 and 1998 and the new categories were as follows: (a) \$4.25 or less, (b) \$4.26 to \$4.75, (c) \$4.76 to \$5.15, (d) \$5.16 to \$6.50, (e) \$6.51 to \$8.00, and (f) More than \$8.00. During that period of time the minimum wage changed from \$5.00 in 1996 to \$5.15 in 1997. In order to reflect the change in minimum wage law, new wage category headings were used and are as

follows: (a) minimum wage and below, (b) above minimum to \$6.50, (c) \$6.51 to \$8.00, and (d) More than \$8.00.

### Job Satisfaction

In Part IV of the survey, vocational completers were asked to rate various aspects of their current job satisfaction. Questions involved satisfaction with salary, potential for advancement, supervisor, co-workers, company policies and practices, working conditions, work tasks assigned, level of responsibilities, amount of work, and job security. The program completers respond using a Likert-type scale: “Very Satisfied” 4, “Satisfied” 3, “Dissatisfied” 2, and “Very Dissatisfied” 1. Responses are reported in table form by service area and targeted population.

### Service Areas

A significant question as yet unanswered in previous studies is how the different vocational program service areas relate to the employment status, earnings distribution and employment satisfaction. All eight service areas in Virginia will be studied: Agricultural Education, Business Education, Education for Employment, Health Occupations Education, Marketing Education, Technology Education, Trade and Industrial Education, and Work and Family Studies. It should be noted that Education For Employment (EFE) is a service area that prepares students with special needs for careers. Often EFE programs are teamed with Work Experience Cooperative Education Programs (WECEP) where students receive school-based and community-based instruction organized around an approved job that leads toward employment.

### Targeted Populations

Personal characteristics of the vocational completers will be studied from the survey results to see how they relate to the vocational completers’ employment status, earnings distribution, and employment satisfaction. The personal characteristics that will be studied are determined by the classifications in question 8 of the follow-up survey. These classifications, which are coded by school personnel, identify members of targeted special populations in four areas: “academically disadvantaged” (coded A), “economically disadvantaged” (coded B), “disabled” (coded C), and “limited English proficiency (LEP)” (coded D).

### Data Analysis

The analysis of three different years of follow-up data was accomplished by the use of File Maker Pro, an information management system. Finding the total number of completers

employed for each year was computed by using the total number of vocational completers reported by each school division and subtracting the numbers in the following groups: (a) completers with incorrect contact information (undeliverable), (b) deceased completers, (c) completers reporting that they were unemployed, (d) those who reported being full-time volunteers. Descriptive statistics, including frequencies, percentages, and overall distributions, were used for interpretation of the employment data.

#### Summary

The role of vocational education in the secondary school has come under increased scrutiny. Questions have been raised as to the success of vocational programs and their completers. In an attempt to move beyond merely counting numbers of completers and in order to provide a crucial connection between the vocational follow-up evaluation findings and future program planning, as well as establish a baseline of information for future accountability and retention studies, this study examines employment status, earnings, and employment satisfaction by vocational program areas and by membership in various targeted populations.