



Participation and persistence in postsecondary vocational education : disadvantaged adults served through a Carl D. Perkins project
by Patricia Peressini Kercher

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

The rapid development of electronic technology in the final two decades of the 20th century and the subsequent integration of these technologies into the workplace have significantly impacted America's workforce. Today, jobs in the American workplace require multiskilled workers with the ability to think critically, to communicate proficiently, and to utilize electronic technology in the completion of job duties. A growing concern is how to train and integrate disadvantaged segments of the nation's population into the workforce, i.e., individuals who are economically or educationally disadvantaged or who have a disability.

In 1990, the United States Congress authorized the Carl D. Perkins Vocational and Applied Technology Act. The purpose of this Act was to encourage postsecondary vocational institutions to develop programs that would train disadvantaged individuals in the skills necessary for employment.

Montana State University College of Technology—Great Falls authored and received a grant for a five-year period of time, 1991-1995, for a project. Although the literature in adult education is rich with information regarding the general population of adults, administrators and faculty at the College have little information available to them to guide their efforts to provide effective education for disadvantaged adults.

The purpose of this study was to (a) develop a profile of the disadvantaged adults who attended Montana State University College of Technology—Great Falls under the Perkins project, (b) develop profiles of the disadvantaged adults who persisted or did not persist until graduation to identify the differences between the two groups, and (c) interview disadvantaged adults to identify the factors, institutional and personal, that enhanced or impeded persistence.

Findings revealed few significant differences between the two groups based on demographic characteristics. Conversely, the interviews provided notable information including the importance placed on positive interaction with faculty as a factor in persistence, the influence of personality factors such as determinism and opportunism, the importance of commitment to goals, and the tendency for disadvantage women to prioritize marriage and family over career ambitions.

PARTICIPATION AND PERSISTENCE IN POSTSECONDARY VOCATIONAL
EDUCATION: DISADVANTAGED ADULTS SERVED THROUGH A
CARL D. PERKINS PROJECT

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APPROVAL

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ABSTRACT

The rapid development of electronic technology in the final two decades of the 20th century and the subsequent integration of these technologies into the workplace have significantly impacted America's workforce. Today, jobs in the American workplace require multiskilled workers with the ability to think critically, to communicate proficiently, and to utilize electronic technology in the completion of job duties. A growing concern is how to train and integrate disadvantaged segments of the nation's population into the workforce, i.e., individuals who are economically or educationally disadvantaged or who have a disability.

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Montana State University College of Technology--Great Falls authored and received a grant for a five-year period of time, 1991-1995, for a project. Although the literature in adult education is rich with information regarding the general population of adults, administrators and faculty at the College have little information available to them to guide their efforts to provide effective education for disadvantaged adults.

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Findings revealed few significant differences between the two groups based on demographic characteristics. Conversely, the interviews provided notable information including the importance placed on positive interaction with faculty as a factor in persistence, the influence of personality factors such as determinism and opportunism, the importance of commitment to goals, and the tendency for disadvantage women to prioritize marriage and family over career ambitions.

CHAPTER 1

INTRODUCTION

Background for the Study

Work has taken on a number of meanings at various stages in the history of the United States. John Thompson (1973), vocational education professional, wrote regarding the evolving nature of work in the United States:

At one point in which the nation faced a scarcity condition, a worker's status was determined by the amount of goods he or she was able to produce. Our emerging national condition is one of abundance. Machines and machines run by machines can produce and do much of work in its traditional sense. Nearly two-thirds of our workforce, compared to one-fourth in 1900, are in the white-collar and service classifications. (p. 23)

In the closing decade of the 20th century work in the United States has assumed yet another new meaning. The economy of the United States is rapidly being converted from a long-standing and relatively stable base of production, distribution, and service to a fast-changing base of highly technical work dependent on computerization and electronic communications. As the United States entered the 1990s, it became readily apparent that the impact of the technological revolution would continue to create a new relationship between the workforce, education, and work. Time has

verified the predictions made in 1963 by Dr. Grant Venn, a postsecondary vocational educator who conducted a study, under the aegis of the American Council on Education, regarding the evolving role of vocational education in the preparation of the nation's workforce. Venn stated, "The workforce's level of technical education and skill attainment will be placed squarely between them and their ability to obtain and maintain a personal and societally beneficial job in the increasingly technological work place of the future" (p. 1).

As this work transformation has evolved, indications are that postsecondary vocational education must assume greater responsibility for preparing all adults, and in particular those adults who are disadvantaged members of society, for entry into this highly technical workforce. Disadvantaged members of society are defined by the American Vocational Association (1990) as "those adults who are disadvantaged by reason of economics, educational functioning, disability, and/or limited English proficiency" (pp. 59-60). According to Astin (1975):

As educational institutions assume greater responsibility for preparing disadvantaged adults for entry into the workforce there will be a growing need to know more about how to increase these students' chances of finishing, whether the concern is based on the loss of talent, the waste of limited educational resources, or the vocational and personal setbacks that result from the student's impeded career development and futile expenditure of time and effort. (p. 1)

Workforce Preparedness

In 1989, the United States Department of Labor established a strategic plan for the education of the nation's workforce. This plan, Workplace 2000, established workforce goals for the 1990s and into the 21st century. The plan stated, "Improving the educational preparedness of workers is a challenge that the United States must meet to be economically competitive in the emerging technological and global economy of the 21st century" (Federal Register, 1989, p. 49034). It further proposed the need to fully involve segments of the population, i.e., disadvantaged adults not now fully utilized in the nation's workforce (p. 49035).

To meet the challenge of improving the educational preparedness of disadvantaged members of the nation's workforce, the Congress of the United States initiated and passed the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. This legislation provided postsecondary vocational education institutions in the United States with federal assistance for a five-year period of time from July 1, 1991 through June 30, 1996. The Act's statement of purpose reads:

It is the purpose of this Act 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. This purpose will principally be achieved through concentrating resources on improving those educational programs which focus

on training and re-training for the competencies needed to work in a technologically advanced society (American Vocational Association, 1990, p. 19).

Postsecondary Vocational Education

A primary focus of the Carl D. Perkins Vocational and Applied Technology Act of 1990 was to utilize postsecondary vocational programs nationwide to encourage full participation of disadvantaged segments of the nation's population in vocational education and to assure that these individuals be provided with the appropriate support services necessary for them to succeed in a vocational program of study (Federal Register, 1989, p. 51449). In designating postsecondary vocational education institutions as the vehicle for the delivery of education to prepare disadvantaged adults for entrance into the workforce, members of Congress demonstrated their recognition of the historical role of these institutions in the preparation of the American workforce. A powerful statement was made by Thompson (1973) regarding the legitimacy of vocational education as the structure for the preparation of the nation's workforce:

Vocational education is the formalized vehicle in American society that facilitates the allocation of occupational roles. As such, it is an extension of those social mechanisms that differentiate persons within the community and prescribe the types of stations and roles that they are expected to assume. (p. 14)

Although there is currently no universally accepted definition of a postsecondary vocational technical institute, these educational entities generally describe themselves as institutions which exclusively or principally provide occupational education in one or more of the technologies at a level above the skilled trades and below the four-year and/or graduate professional level to individuals who have completed or left high school (Graney, 1967).

Participation in Postsecondary Vocational Education

In recent years, the question of who participates in adult educational activities has taken on new meaning from societal, economic, and legislative perspectives. There is growing recognition nationally, inside and outside educational circles, of the need for participation in lifelong learning, particularly vocational education, as a means to fully develop all segments of the nation's human capital as well as to enhance the quality of life for a greater number of citizens. A major goal outlined through the U.S. Department of Labor's Workforce 2000 project (1987) was that "all of the nation's workers will have the opportunity to acquire the knowledge and skills needed to adapt to emerging new technologies, work methods, and markets through public and private vocational education" (p. 5).

As a result of expanding legislative efforts, it can be anticipated that "there will be a significant increase in participation in two-year postsecondary vocational education by adults who are disadvantaged" (Stewart, 1993, p. 2). This anticipated increase is a continuation of the trend toward participation in vocational education reported by the National Center for Education Statistics in 1983, "Disabled, disadvantaged, and limited-English proficient populations comprised nearly twenty percent of all students enrolled in vocational education" (p. 23). Currently in postsecondary education, these disadvantaged students have come to be termed collectively as nontraditional students. Johnson (1991), vocational education professional at the University of Minnesota, provided a summary of the characteristics of these nontraditional students:

For the most part, the term nontraditional is applied to students who, due to their unique situations, individual characteristics, and personal needs, experience additional barriers or difficulties in accessing and completing postsecondary education programs. Researchers have tended to view the nontraditional student as older than the typical student attending a postsecondary education program, academically and/or economically disadvantaged (e.g., high school dropout, welfare recipient, single head of household), racially or ethnically different, in possession of special learning needs (disabled), and/or non-English speaking. (p. 2)

According to a study completed by Gilli (1976), these disadvantaged adults indicated that "their main reason for going to college, rather than their interest in learning, is

to use education as a vehicle to acquire a better job and to lead a better life than their parents" (p. 137).

Persistence in Postsecondary
Vocational Education

According to information from the U.S. Department of Education, Office of Postsecondary Education (1992):

Recent years have seen a great widening of access to postsecondary education. A larger portion of the U.S. population than ever before and a larger proportion than in any other nation enjoys the advantages of education beyond high school. But the open door to postsecondary education too often proves to be a revolving door. Of the roughly 2.6 million students entering programs in postsecondary education each year, over a million never complete either a two- or a four-year program. (p. 5)

Research into the problem of attrition from postsecondary educational programs has primarily focused on the general population of students enrolled in two- and four-year college programs. A review of these studies indicated that attrition rates have remained constant and high, 50% or more, over the last four decades (Astin, 1975; Cope & Hannah, 1975; Long, 1983; Tinto, 1987). When considered independently from other postsecondary education programs, the rates of attrition from two-year postsecondary education programs, vocational education and/or community college, are significantly higher, approximately 70% (Astin, 1975; Cope & Hannah, 1975; Tinto, 1987).

Tinto (1987) focused a portion of his study on minority and disadvantaged students. He found that individuals of

different race, ability, and social status origins differed markedly in the rate at which they left higher education within 4 years of entry without earning a degree. Persons of lowest academic ability were more than twice as likely to depart as were individuals of highest ability, 72% as compared to 34%, while those of lowest social status were approximately 60% more likely to leave than were those persons of highest status (pp. 16-17).

The special learning needs of disadvantaged adults entering postsecondary vocational education were the compelling force that created the language of the Carl D. Perkins Vocational and Applied Technology Act of 1990. Under requirements of this Act, each postsecondary vocational institution receiving grant funds would be required to provide support services to assist disadvantaged adult learners to overcome barriers to access and success in vocational education. Support services under the Act could include curriculum modification, equipment modification, classroom modification, supportive personnel, and instructional aids and devices (National Center for Research and Vocational Education, 1992, Introduction).

According to educational researchers Brown, Fjeld-Joseph, and Wotruba (1992):

Disadvantaged students hope their college experiences will enable them to engage in many activities, that their professors will help them understand their classwork, and that the campus will have a prevailing feeling of friendliness.

Disadvantaged students frequently become discouraged when they encounter educational environments that they perceive as noncaring, as unwilling to respond to or understand their unique attributes, and/or as being unable to accommodate their special learning needs. (p. 1)

Statement of the Problem

The dual questions of who participates and who persists in adult education have been the focus of a great deal of research over several decades. The majority of these studies regarding participation and attrition have been applied to the general population of adult students. Recent federal legislation, the Carl D. Perkins Vocational and Applied Technology Act of 1990, mandated the implementation of expanded services by postsecondary vocational education institutions to integrate and/or serve greater numbers of adults who are disadvantaged in order to enhance their future employability. To date, limited research has been conducted regarding adult participation in and/or attrition from postsecondary vocational education, and little research has been conducted on the specific characteristics and needs of the disadvantaged adult in postsecondary vocational education. As a result, there is limited information regarding these adult students who, due to their socioeconomic situations, educational backgrounds, individual characteristics, and personal needs, may experience unique barriers in accessing and/or successfully

completing postsecondary vocational education programs. Johnson (1991) provided strong rationale for further research to understand the participation and attrition patterns and special needs of these disadvantaged adults.

The enrollment data of the 1980s suggests there is a growing trend toward serving increased numbers of disadvantaged students in postsecondary vocational education. In most cases this will require more than a simple fine-tuning of existing institutional policies, programs and practices. A more in-depth understanding as to why students drop out, why they stay, and what appears to make a difference in enhancing their retention are critical questions for researchers and vocational education practitioners. (p. 5)

If legislative efforts to integrate disadvantaged adults into postsecondary vocational education are to be successful, there is a critical need to understand the circumstance these individuals experience in their efforts to complete a program of study. Vocational educators and program administrators must formulate a better understanding of these adults. Who participates, who drops out, who succeeds, and what factors contribute to persistence or nonpersistence?

Purpose of the Study

The purpose of this study was to investigate the institutional and/or personal factors that influenced one group of disadvantaged adults, persisters, to complete their vocational education program, and another group, nonpersisters, to leave their vocational education program

prior to graduation. To accomplish this purpose, three research objectives were undertaken: (a) to describe and analyze the sociodemographic and educational characteristics of the total group of disadvantaged adults who made the decision to participate in vocational education at Montana State University College of Technology--Great Falls; (b) to describe and analyze, based on demographic and academic characteristics, how the groups differed; and (c) to elicit through personal interviews, the perspectives of disadvantaged adults regarding the process of persistence or nonpersistence in postsecondary vocational education.

Research Questions

The following research questions directed this study:

1. What are the demographic and academic characteristics of disadvantaged adults who participated in postsecondary vocational education under the Carl D. Perkins project at Montana State University College of Technology--Great Falls from July 1, 1993, to June 30, 1995?
2. What factors influenced these disadvantaged adults to participate in postsecondary vocational education?
3. What are the demographic and academic characteristics of the disadvantaged adults who persisted in postsecondary vocational education as compared to the characteristics of the disadvantaged adults who were nonpersisters?
4. What influence did participation in campus support services have on persistence for disadvantaged adults?
5. What insights did disadvantaged adults have regarding factors that influenced them to persist until graduation?

6. What insights did disadvantaged adults have regarding factors that influenced them to drop out prior to graduation?

Significance of the Study

What constitutes "significant" is value-laden and usually translates into what doctoral committees, journal reviewers, or conference selection committees consider to be interesting, worthwhile, and important. More long-term tests of significance would be the extent to which a particular piece of research affects practice, influences subsequent writing and thinking, and/or stimulates further research. (Merriam, 1989, p. 161)

Given the historic high rate of student attrition in postsecondary two-year education combined with increasing diversity in the composition of student populations, vocational educators are seeking information to improve strategies to maximize the holding power of their educational programs. Therefore, this study of disadvantaged adults enrolled in postsecondary vocational education and of the factors that contribute to their persistence or lack of persistence has several important implications for Montana State University College of Technology--Great Falls as well as for two-year postsecondary vocational college and community college constituencies who may be interested in developing programs to recruit and serve disadvantaged adults. First, the study identified the characteristics of adult learners who are disadvantaged and who have made the decision to participate

in a formal postsecondary vocational education program. Second, it compared the characteristics of disadvantaged adults who persisted until graduation with those of disadvantaged adults who dropped out prior to graduation. Third, it identified the impact of institutional practices on the persistence patterns of these disadvantaged adults. Fourth, it investigated participation and attrition from the disadvantaged adult learners' perspective by seeking their individual accounts of important factors, personal and institutional, which were related to participation, persistence, or nonpersistence in two-year vocational education. Finally, in contrast to the majority of studies regarding participation and persistence in postsecondary education that have focused on urban environments, this study focused on disadvantaged learners residing in a rural state.

This study tested the applicability of the existing models of adult participation in educational activities to the understanding of the participation and persistence patterns of a specific group of learners, disadvantaged adults. Information gained from this study may provide two-year vocational education administrators and faculty with insight into the motivations and needs of disadvantaged adults who participated in vocational education as well as an improved understanding of the interaction between individuals and the educational environment itself. It is

anticipated that from such insight and understanding, sound retention strategies may be derived to potentially reduce attrition for disadvantaged adult students.

Limitations of the Study

Generalizability is limited due to several aspects of the study. First, the sample was not randomly generated from the population nationwide of disadvantaged adults who enrolled, under Carl D. Perkins projects, in two-year postsecondary vocational education programs and/or who participated in institutional support services designed for project participants. Second, the sample was not reflective of all categories of disadvantaged adults as specified by the Carl D. Perkins Vocational and Applied Technology Act of 1990 but rather was reflective of the specified categories of disadvantaged adults who existed in significant enough numbers on the campus of Montana State University College of Technology--Great Falls. Finally, the nature of descriptive and interview research relied on data and self-reports rather than observation.

Delimitations

The research conducted to gather data for this study was limited to the disadvantaged adults who enrolled at Montana State University College of Technology--Great Falls in Academic Year 1993-94 through Academic Year 1994-95 as

well as to the supportive services available at the College of Technology.

Assumptions

Disadvantaged adults enrolled in programs of study and participated in supportive services at Montana State University College of Technology--Great Falls under the Carl D. Perkins project from July 1, 1992, through June 30, 1996. This study focused on only the disadvantaged adults who were enrolled in programs of study and who participated in support services at Montana State University College of Technology--Great Falls in the time period from July 1, 1993, to June 30, 1995. It was assumed that the adults who participated in the study were essentially similar to disadvantaged adults enrolled in all other years.

Demographic and academic data for the study were collected from written information provided by disadvantaged adults through their completion of admission applications, course enrollment, and withdrawal forms. It was assumed that these adults were honest and open in their written responses to these questionnaires.

Data were also gathered through personal interviews with disadvantaged adults. These individuals were assured that their identities would be shielded. Therefore, it was assumed that respondents were honest and open in their answers and recollections.

All data were entered by college personnel into the data base file for student record keeping and administrative reportorial requirements of the Carl D. Perkins Vocational and Applied Technology Act. It was assumed that these data were as accurately registered as humanly possible.

Definition of Terms

Attrition refers to students who drop out of postsecondary education prior to completion, i.e., graduation (Johnson, 1991, p. 8).

Carl D. Perkins Vocational and Applied Technology Act of 1990 means the passage of federal legislation in 1990 to provide secondary vocational education and postsecondary vocational education programs with federal assistance for five years, from July 1, 1991 through June 30, 1996, to expand job-related vocational education to members of special population groups (American Vocational Association, 1990, p. 11).

Disabled/disability is a term used interchangeably with handicapped and means any individual who has a physical or mental impairment that substantially limits one or more of the major life activities of that individual, has a record of impairment, is regarded as having an impairment, or any individual who is considered disabled under section 504 of the Rehabilitation Act of 1973 (Federal Register, Department of Education, October 11, 1991, p. 51462).

Disadvantaged means individuals who have economic or academic disadvantages and who require special services and assistance to enable such individuals to succeed in vocational education programs. Such term includes individuals who are members of economically disadvantaged families, migrants, individuals of limited English proficiency, and individuals who are dropouts from secondary school.

Dropout means a student who has dropped out of a postsecondary educational program before graduation and is not expected to return (Astin, 1975, p. 8).

Economically disadvantaged means any individual who is eligible for and receiving U.S. Department of Education Title IV Federal Financial Aid Assistance to attend postsecondary education (Federal Register, Department of Education, October 11, 1991, p. 51462).

Educationally disadvantaged means an individual whose academic assessment, Test of Adult Basic Education (TABE), total battery performance is less than 10.5 grade level (Montana State University College of Technology--Great Falls, 1991).

Formal educational activity/formal postsecondary program means a course or sequence of courses offered through a postsecondary institution for credit, certificate, or degree (Federal Register, Department of Education, October 11, 1991, p. 51462).

Graduation means completion, with a cumulative grade point average of 2.0 or better, of all the required courses in a Certificate or Associate of Applied Science Degree program of study (Montana State University College of Technology--Great Falls, 1994b, p. 21).

Job-shadowing means spending time on the job with an individual who is performing the job being considered.

Nontraditional age means students who are 23 years of age or older (Montana Commissioner of Higher Education Reporting Manual, 1991, p. 3).

Nonpersister is a term used interchangeably with dropout to describe a student who has dropped out of a postsecondary educational program before graduation and is not expected to return (Astin, 1975, p. 8).

Participation means an individual is enrolled in and expects to complete a Certificate or Degree program of study (Montana State University College of Technology--Great Falls, 1991).

Persister is defined as any student who graduates from a postsecondary educational program or who is still in attendance and expected to graduate (Astin, 1975, p. 9).

Postsecondary education means an institution of higher education in any state which (1) admits as regular students only persons having a certificate of graduation from a school providing secondary education or the recognized equivalent of such a certificate,

(2) is legally authorized with such state to provide a program of education beyond high school, (3) is accredited by a nationally recognized accrediting agency or association (Federal Register, Department of Education, October 11, 1991, p. 51462).

Postsecondary vocational education means organized educational programs offering a sequence of courses or instruction in a sequence or aggregation of occupational competencies that are directly related to the preparation of individuals for paid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree (American Vocational Association, 1990, p. 163).

Retention generally refers to the institution's role in encouraging and/or enhancing student persistence (Johnson, 1991, p. 8).

Stopout is a student who interrupts his or her undergraduate education for a relatively brief period and returns to complete the program (Astin, 1975, p. 9).

Sociodemographic characteristics means factors such as age, gender, marital status, family composition, social level, economic status, and educational background (Webster's Unabridged Dictionary, 1989, 1351).

Special learning needs refers to the educational concerns inherent in serving those students who perform below their ability levels, who are unwilling or unable to invest sufficient effort to fulfill program requirements, or who display inappropriate behaviors and are likely to drop out before attaining educational and career outcomes commensurate with their ability levels (Brown, Fjeld-Joseph, & Wotruba, 1992, p. 1).

Special populations include individuals with handicaps, educationally and economically disadvantaged individuals, individuals of limited English proficiency, individuals who participate in programs designed to eliminate gender bias, and individuals in correctional institutions (American Vocational Association, 1990, p. 160).

Success means the completion of a one- or two-year Certificate or Associate of Applied Science Degree vocational education program (Montana State University College of Technology--Great Falls, 1991).

Support services/supplementary services means curriculum modifications, equipment modification, classroom modifications, supportive personnel, and instructional aids and devices (American Vocational Association, 1990, p. 163).

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

In 1987, William E. Brock, Secretary for the United States Department of Labor, addressed members of Congress regarding his predictions for the nation's workforce and its need for additional skill training in view of the emerging changes in the national economy.

We already know a good deal about the future. We know that jobs will be available for anyone with the skills and the desire to work. But we also know that by the year 2000 technology and the shift to the service sector will reduce the need for unskilled workers, and increase the need for workers with higher skill levels. A shrinking labor pool means that employers will face increased competition for those workers. At the same time, 80 percent of the new entrants into the workforce will be women, minorities and immigrants--groups that have historically been disadvantaged. For them, the competition for workers can mean increased opportunity and advancement. It is obvious that the changes in the economy that will occur during the next decade will affect all of us. The fact is that a serious mismatch between work place needs and workforce skills threatens our nation--our standard of living, our opportunity for development, our ability to compete globally--if we don't act now. (U.S. Department of Labor, 1987, p. 1)

In the United States, periodic and dramatic changes in the national economy have been a historical reality. In its 200-year history, the nation has undergone three major

changes in its economic base--from the original agrarian based economy to a long-standing industrial based economy to the current rapidly emerging global and technology based economy. Each of these changes have been inescapable and have produced a critical impact on the nation's workforce. Each change has required the nation's workforce to develop new or additional skills in order to be employable.

The impact of each economic change on the nation's workforce has had an ensuing impact on the nation's educational system. Historically, primary responsibility for imparting new or additional skills to the workforce has been entrusted to the nation's educational system. The history of education revealed that the nation's educational system has had to undergo periodic change in order to respond to emerging work place needs. As can be perceived from Secretary Brock's address, an additional challenge for the educational system in preparing the nation's workforce for the economic changes of the 21st century will be the need to prepare greater numbers of individuals from disadvantaged sectors of the American society.

This chapter undertakes a review of literature to formulate the basis for a fuller understanding of disadvantaged adults, their motivation toward education, their participation in postsecondary vocational education, and the factors which enhance or impede their success in completing a vocational education program. This review

includes the broad areas of (a) current trends in the national economy which will impact the workforce of the future as well as the nation's educational system, (b) the historic and emerging role of postsecondary vocational education in preparation of the workforce, (c) the impact of the Carl D. Perkins Vocational and Applied Technology legislation on postsecondary vocational education, (d) participation and attrition studies related to adults in educational activities, (e) the condition of disadvantage in America and its impact on educational activities, and (f) the study of retention strategies to reduce attrition in postsecondary education.

Postsecondary Vocational Education and the Workforce

Economic and Technological Change

In the final decade of the 20th century, the rapid emergence of the global marketplace as well as of electronic technology as the basis for the economy of the United States has raised a great deal of concern regarding the nation's economic future as related to the competitiveness of the workforce. Workforce 2000, a study completed by the United States Department of Labor (1987), specified challenging conclusions regarding emerging trends, economic and technological, that would impact jobs, and consequently the nation's workforce, during the 1990s and into the 21st century. Workplace 2000 projected that:

(a) the pool of young workers entering the labor market would shrink; (b) women, minorities and immigrants, the nation's most disadvantaged groups, would account for 80 percent of the new additions to the workforce between 1987 and the year 2000; (c) less than 10 percent of jobs would be in manufacturing; and (d) the technology oriented jobs of the future would demand more highly skilled workers. (p. 2)

The study further pointed out that "increased productivity growth comes first from people--people who are better educated and better trained" (p. 2). According to the Workforce 2000 Project Office:

Workforce 2000 symbolized the collective goal of business, labor, the educational system and all levels of government to ensure adequate jobs and a decent society for all Americans. Achievement of this collective goal would include determined efforts to identify ways to diminish the problem of illiteracy, to integrate women, minorities, the handicapped and older Americans more fully into the national economy, and to encourage working men and women to make training and retraining a lifelong priority. (U.S. Department of Labor, 1987, p. 4)

In Montana the Governor's Council on Economic Development (1987) authored a report in response to the economic forecasts outlined by the national Workplace 2000 document. Montana's report, *The Next Century: Strategies for Advancing Montana's Economy* predicted emerging changes in the Montana economy into the 21st century. Through this report the Council contended that "Montana's competitiveness in the global economy would require the highest quality of the most technologically advanced products and services imaginable" (p. 6) and that "the critical difference, the

competitive edge, must reside in the caliber of the work force" (p. 11). The report further supported the need for a high caliber workforce in its predictions for economic change.

As the state's economy becomes more diversified it depends less on traditional extraction industries and more on services and entrepreneurship. The educational implications of these changes are apparent today. Montana's six largest services industries in descending order are local/state/private education, health care, retail eating/drinking establishments, general state/local government, federal government, and business. All are completely reliant on skilled people, so much so that the workforce has become the critical determinant of the rate of growth of the economy and the well-being of the population. (p. 14)

In its workforce investment strategy, the Montana economic planning report paralleled national recommendations regarding the need to train and retrain the workforce as well as to fully integrate disadvantaged segments of the population into the workforce. The report advised a workforce investment strategy that contained two basic tactics: (a) to raise the educational attainment and skills of tomorrow's workforce and (b) to strengthen the earning capacity of poor people and reduce welfare caseloads (p. 11).

Education and Workforce Preparedness

Electronic technology has introduced change into virtually every industry and every job in the nation, creating unparalleled demand for educated people. During

the last three decades of the 20th century, the educational implications of these emerging changes have been well recognized by economist and educators alike. According to Cross (1981), "Technological change and the knowledge explosion is so fast and powerful that it wipes out entire industries and creates new ones in a single decade (p. 3). Because of the rapid and continuous changes in technology and knowledge, Toffler (1970) warned that "most people are grotesquely unprepared to cope with the pace of change and mass disorientation in the society could result" (p. 14). Closely mirroring Toffler's warning was the concern recently stated by United States Department of Labor Secretary, William Bell, who predicted that "the incongruity between workforce skills and work place skill demands could destroy the nation's standard of living, its opportunity for development, and its ability to compete globally" (U.S. Department of Labor, 1987, p. 1).

Coinciding with the growing appreciation of the impact of technological change on the workforce has been the growing appreciation for the worthwhileness of education and lifelong education as a means to maintain the competitiveness of the nation's workforce. Cross (1981) discussed the changing work place and education's role in meeting the lifelong learning needs of adults.

The learning society is growing because it must. It would be difficult to live in an environment changing as rapidly as ours is without constantly

learning new things. Formerly one generation could pass on to the next what was necessary to know in order to survive. Change is now so great and so far reaching that no amount of education during youth can prepare adults to meet the demand that will be made upon them. Lifelong learning will be increasingly necessary for everyone and those who lack basic skills and motivation for lifelong learning will be severely handicapped in obtaining the necessities of life and in adding any measure of personal satisfaction to the quality of their lives. (p. 49)

Concurrent with the concern for the workforce in general has been a long-standing concern for integrating disadvantaged members of the nation's population into the workforce as a means to improve both social and economic conditions. The work of Best and Stern (1976) regarding the American workforce demonstrated the growing concern for disadvantaged members of the American workforce. This concern was evidenced as follows:

There can be little doubt that many of our most serious and persistent social problems stem from the ways in which education and work are distributed throughout our society. The major social problem is unemployment. For the past fifty years, society has been unable to provide adequate jobs during peacetime for everyone willing and able to work. The major victims of chronic unemployment or underemployment have been minority groups, women, youth, and older people. (p. 24)

The Character of Vocational Education

It is important to understand the character of vocational education in order to understand the prominent role it has been assigned for preparation of the workforce of the future and, in particular, for the preparation of

individuals who are disadvantaged. There are several elements of vocational education that serve to distinguish it from other educational activities. The first element which is consequential to the understanding of the character of vocational education is an appreciation of its history in the United States. At the time of the American Revolution, vocational education as it is known today was only faintly visible under the time-honored method of the father-son relationship or apprenticeship. However, this was not to remain the case. From the nation's beginning, social and economic forces were converging that disclosed the need for the nation to become vocational education conscious regarding its workforce needs. Barlow (1976), historian for the American Vocational Association, chronicled the history of vocational education in America during the nation's bicentennial year. He summarized that history as follows:

During the first 50 years of the nation's history, 1776-1826, there was a gradual awakening to the need for education. This was the period in which the nation embarked on the great American experiment of attempting to educate all the people. The second period of 50 years, 1826-1876, demonstrated much independent action by individuals and groups as they sought to react to the workforce needs which emerged as a result of the Industrial Revolution. During the third 50 years, 1876-1926, the vocational education age emerged and vocational education as we know it today had its beginning. Our educational heritage was to be found in these years. The fourth 50 years, 1926-1976, were marked by the great growth and development of vocational education. This growth was related to a fundamental objective of American life--how individuals are to earn their living. (pp. 3-4)

As important as history, to the appreciation of the character of vocational education, is the understanding of the term, vocational education. Thompson (1973) defined vocational education from the perspective of individuals and careers.

The term, vocational education, has been used historically with a variety of meanings. In some instances it refers to a very narrow skill training; in others it relates to attitudes and values. More generally, the term has come to describe the educational programs that assist people as they develop toward occupations and careers. (p. 10)

In addition to the definition of vocational education from the perspective of the individual, the American Vocational Association (1989) defined the term from the perspective of the vocational education institution:

The term vocational education describes educational programs offering a sequence of courses or instruction in a sequence or aggregation of occupational competencies that are directly related to the preparation of individuals for paid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree. (p. 163)

Another important element in understanding the character of vocational education is to understand its potent influence in motivating adults toward educational activities. This can be seen from the report of initial research in the field of adult education regarding why adults participate in educational activities. Houle (1961) observed the importance of vocational education.

Consider the widely noted fact that enrollment in formal courses of adult education is heavily vocational. We observe this phenomenon and we add to it the general idea that the United States is a commercial and industrial society with strongly materialistic values and we draw the conclusion that people enroll in vocational courses because they want to make more money. When we ask adults why they come to an educational institution we discover that the major reason they come is to get ahead on the job. Most ask for something that will help me in my work and may even try to find vocational reasons for non-vocational classes. (p. 33)

Finally, the study of the character of vocational education in America revealed its historical role of providing a direct connection between the nation's educational system and the labor market. Thompson (1973) described this linkage in terms of the social impact of vocational education in America.

Vocational education is the formalized vehicle in American society that facilitates the allocation of occupational roles. As such, it is an extension of those social mechanisms that differentiate persons within the community and prescribe the types of stations and roles that they are expected to assume. Vocational education is usually the only link between educational institutions and the institutionalized labor market. (p. 14)

Vocational Education Legislation and Workforce Preparedness

According to the literature, initial federal legislation designed to stimulate the development and maintenance of vocational education programs was embodied in the Smith-Hughes Act of 1917. Thompson (1973) examined the

purpose of initial federal legislation in the following narrative:

Beginning with the Smith-Hughes Act of 1917, the federal government indicated that it was interested in people being trained for occupations needed by society and vocational education was created for the allocation and transmittal of occupational roles from one generation to another. The Act also indicated that the public school had an important role to play in the institutionalized setting of allocating people to jobs. The Smith-Hughes Act and its policies which were based on a broad view of the role of occupational education as an allocating mechanism stood basically undisturbed until 1962. (p. 16)

A period of questioning and instability in federal funding for vocational education was to follow the long-standing Smith-Hughes legislation. In the early 1960s, vocational education began to receive a great deal of criticism for the perceived failure of its allocation policies under the Smith-Hughes Act to respond adequately to the nation's evolving workforce needs. Thompson (1973) related, "Unemployment was high, especially in the nation's large cities; jobs and people were not well matched; and there was a surfacing concern for people with special needs" (p. 17).

The literature revealed that these societal and economic factors were to lead to the first of many major revisions to the philosophy and role of vocational education in America. The revisions of the 1960s were contained in the newly authored and passed federal Vocational Education Act of 1963. Under this newly named federal legislation,

vocational education became a mechanism of the swiftly materializing national manpower development policies. This new dimension of manpower training placed less emphasis on matching the best person with an existing job but rather emphasized providing a suitable job for each person or equipping the person to fill a suitable job. The specific purpose of the Vocational Education Act of 1963 provided recommendations and incentives for vocational education to become available to a wider range of students. Mayor and Barlow (1965) wrote:

It is the purpose of the Vocational Education Act of 1963 to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, to provide part-time employment for youth who need such employment in order to continue their vocational training on a full-time basis, to provide instruction so that persons of all ages in all communities will have ready access to vocational training or retraining which is of high quality, realistic in relation to employment and suited to the needs, interests and ability of the persons concerned. (p. 200)

The Vocational Education Act of 1963 was introduced in the House of Representatives by Carl D. Perkins, a representative from Kentucky who served as the chairman of the appropriations sub-committee for elementary, secondary, and postsecondary education.

The chronology of legislative funding efforts indicated that, after 1963, vocational education was reviewed and critically debated at each reauthorization juncture with these junctures occurring on a five-year cycle.

An area that was to receive increased attention, starting with the Vocational Education Act of 1963 and within each reauthorization thereafter, was the commitment to serve disadvantaged segments of the nation's population. Barlow (1976) recorded the growing awareness of the social inequities for disadvantaged segments of the nation's population as follows:

During the late fifties and throughout the sixties a rash of legislation appeared in response to the growing social revolution. Great concern was beginning to develop around certain groups of disenfranchised persons who needed attention. In one way or another these people had fallen through the cracks of the social structure and their plight had become a national problem. They were described by various terms such as underemployed, unemployed and disadvantaged and were primarily black or poor white. On a parallel course, the general plight of women in American cultural and economic life gained attention. The civil rights of all persons, but particularly of these groups were the objects of deep social and economic concern. (p. 76)

A significant occurrence in the history of legislation for vocational education in the United States was to occur in 1983. Senator Carl D. Perkins, who was still chairman of the appropriations sub-committee for elementary, secondary and vocational education, was killed in an airplane crash. As a memorial to him, the reauthorization of the Vocational Education Act of 1984 was brought to rapid consensus and it was agreed that this legislation would be renamed in honor of Senator Perkins. The year, 1984, witnessed the renaming of vocational education legislation and the addition of the

term applied technology to the focus of legislation. This new legislation, the Carl D. Perkins Vocational and Applied Technology Act of 1984, had two major purposes. First, it directly addressed services to individuals who were members of special populations, i.e., the handicapped, the educationally and economically disadvantaged, single parents, foster children, those not properly served because of sex bias, and those with limited English proficiency. Second, this legislation focused on the term "applied technology" to emphasize the importance of integrating academic learning into the vocational setting.

The intent of the legislation set in motion in 1984 was continued when the United States Senate on April 5, 1990, approved Senate Bill 1990, the Carl D. Perkins Vocational Education Act reauthorization bill, by a vote of 96-0. Through the reauthorization bill, there was one major shift in responsibility for planning and implementing the intent of the legislation for the next five years. Meers and West (1992) described this major change.

Previously, federal government and state educational agencies primarily guided federally mandated services. Now, under the newly reauthorized Act, local and state educational agencies have much more flexibility in designing and implementing vocational programs and services. Local educators who were mainly responsible for delivering programs and services are now charged with the responsibility of designing improved programs (p. 4).

Several key elements of the 1984 legislation that were maintained and/or strengthened in the 1990 reauthorization bill that have particular emphasis for this study included the following: (1) A state could spend up to 50% of state grant funds for postsecondary education to serve economically and/or educationally disadvantaged families or individuals, minorities, individuals with limited English proficiency, or individuals with disabilities; (2) the funds could be used to prepare such individuals to enter the job market; and (3) funds made available must be used in postsecondary institutions serving high concentrations of disadvantaged individuals. Finally, the reauthorization bill was persuasive in its new language that strengthened the goal of providing a range of vocational-technical education options for all students. According to Kochlar (1993):

The new language of the reauthorization bill embraced the powerful principle of greater student self-determination and ability to participate in their own futures and in the economic and social mainstream of their communities. The language of the bill provided assurances that the educational system would make good on its nearly four decade old promise to provide equal access to education for all individuals, of all races, backgrounds, and abilities. (p. 46)

Participation of Adults in Formal Education

Motivation Toward Education

Critical to this study was the understanding of human motivation and the impact of motivation on the decision by adults to participate in formal educational activities. Early recognition of the need for relevant and quality educational opportunities to motivate adults toward participation was noted by Kempfer (1955).

Adults demand education with intrinsic merit, education that serves their recognized needs. When an educational activity helps them solve their problems and make behavior changes that they want and need to make, they will participate in great numbers. Only when adults are forced by social or economic pressure to acquire a diploma will they pursue classroom activities that are unrelated to their real concerns. (p. 31)

Supporting and expanding this early insight into motivation, Peers (1966) reminded adult educators of their crucial role in motivating adults toward participation. "The adult education movement has a duty not merely to teach, but also to awaken and stimulate those adult interests which alone can provide the conditions under which teaching can be wider spread and more effective" (p. 203).

A more recent study by Tough (1978) supported the responsibility that educators have in stimulating adult interest in learning. His study pointed out the surprising fact regarding how much time adults spend each year in educational activities. He estimated the time as follows.

"Adults spend a remarkable amount of time each year at their major efforts to learn. In fact, a typical learning effort requires 100 hours and the typical adult conducts five of them a year" (p. 253).

In the field of adult education, the concept of motivation was frequently utilized to understand why individuals do what they do. Many researchers have attempted to answer the question of why adults participate in educational activities. Kidd (1973) attempted to simplify the complex question of motivation toward education through his research.

The interest that has been aroused in all fields of education is a form of recognition that learning is performed by the learner. To simplify what is a complex field, it can be said that there are two main views of human motivation, need reduction and positive striving. In the first view, need reduction, it is asserted that the individual's motivation to perform a variety of activities arises from the necessity of fulfilling basic or survival needs. The second view, positive striving, has many formulations, most of which claim that a potent motivating force is self-fulfillment and the need for a human being to enhance his relationships within society.
(pp. 102-103)

Foremost among the studies of adult motivation toward education was the work of Houle (1961). In his study, The Inquiring Mind, Houle analyzed the general concept of motivation. He established that:

The desire to learn, like every other human characteristic, is not shared equally by everyone. To judge from casual observation, most people possess it only fitfully and in modest measure. But in a world which sometimes seems to stress the

pleasures of ignorance, some men and women seek the rewards of knowledge--and do so to a marked degree. No sharp line divides such people from the rest of mankind. Everyone might be placed somewhere on a single scale ranging from the most avid to learn to the most incurious, if only we knew what kind of progression to set up and how to establish its stages. But even those at the lowest end of any such scale would still have some wish to learn. (pp. 3-4)

Following the work of Houle, researchers began to study the distinctive factors inherent in adult motivation toward education. Kidd (1973) speculated on the concept of intrinsic motivation as well as on self-imposed barriers to participation in educational activities.

Adults can, and do, learn well all through life. But why does learning happen in some cases and not in others, if the physical and mental equipment is functioning? A typical answer is that the learner was not motivated. The interests, needs, and motivations of any learner are primarily a matter of emotions, not of the intellect. Any learner, in a classroom or elsewhere, brings to the learning transactions such feelings as self-esteem, fear, jealousies, respect for authority, need for status and prestige, and so on. (pp. 93-94)

Seaman and Fellenz (1989) studied the impact of individual learning needs on the adult's motivation to participate in education. Their study reported, "Regardless of what it may be, it is always the felt need or goal which motivates individuals to pursue their education in spite of the many obstacles that may loom in their way" (p. 9).

The Factor of Disadvantage in
Motivation Toward Education

In reviewing the literature regarding the factors that motivate adults to participate in educational activities, Cross (1991) reported participation patterns which related to the life situations of adults.

Research in the field of adult education regarding the participation patterns of adults in learning activities related consistently and logically to the life situations of the respondents. People who do not have good jobs are interested in further education to get better jobs. People who have good jobs would like to advance in them. Women, factory workers and the poorly educated are more likely to be pursuing education in order to prepare for new jobs, where as men, professionals and college graduates are more likely to be seeking advancement in present jobs. Men are more interested in job-related learning than women are, and young people are far more interested in it than older people are. (p. 91)

Webster's New Universal Unabridged Dictionary (1992) defined the human condition of being disadvantaged as "absence or deprivation of advantage or equality; lacking the normal or usual advantages; and the state of being in an unfavorable circumstance or condition" (p. 408). For the past 50 years, the conscience of the American nation has been tested by the paradox of the presence of disadvantaged segments of the population in a nation that prides itself in the premise of equal opportunity for all. Fueling the national conscience is the growing recognition of the negative economic and sociological impacts of the condition of being a disadvantaged adult in America. Analogous with

this growing consciousness and recognition has been increasing reliance on the capacity of postsecondary vocational education to alleviate disadvantage for segments of the national population through education leading to gainful employment. This reliance on vocational education has resulted in national legislation focused on providing postsecondary vocational education institutions with incentives to recruit and educate adults who are disadvantaged. As a result, research in the field of adult education has increasingly turned its attention to the general understanding of human motivation as it is related to participation in educational activity and to the specific study of the impact of disadvantage on motivation to participate in and succeed in educational activities.

Early studies regarding human motivation toward education were conducted by (Boshier, 1973; Maslow, 1970; Miller, 1967; Rubenson, 1977; Smith & Martin, 1972; Vroom, 1964). Each of these studies contained relevant information regarding motivation as applied to the condition of being a disadvantaged adult. Foremost among these early studies was the work of Maslow (1970). His work as a pioneer in the study of human motivation has stood the test of time and continues to provide a framework for the contemporary study of motivation toward education. Maslow developed a model expressing the hierarchy of human needs. He concluded that individuals strive to achieve complete self-identity through

the development of their full potentialities (p. 23). Of particular relevance to the attempt to understand the participation and retention patterns of disadvantaged individuals in educational activities was Maslow's conclusion regarding the operation of the human needs hierarchy. In summary, Maslow concluded that (a) gratification of need on each level of the hierarchy, beginning with the lowest level, frees the individual to pursue higher levels of gratification, (b) on the whole, an individual is not free to pursue a higher level need until lower level needs are fulfilled, and (c) generally, participants in formal educational activities are those persons whose basic needs have been met so they can be principally motivated by their needs to actualize their highest potentialities (pp. 89-93).

Vroom (1964) moved beyond Maslow's conclusions of basic survival or external needs as principal barriers to motivation to participate in formal learning activities. He concluded that the removal of external barriers alone would not result in a spontaneous motivation in the individual to seek out adult education as a means to moving closer to self-actualization and that there are internal factors of motivation to be considered (p. 7).

Miller (1967) utilized Maslow's hierarchal needs theory as the foundation to more specifically study the relationship between socioeconomic status and participation

in adult education. From his study, he concluded that there are large differences between the social classes in regard to the outcomes they hope to attain from participation in adult education. Explicitly, those adults with a high school education or less were interested in job-related education while those who were well-educated and not worried regarding basic survival needs were motivated to pursue education for personal and professional development (p. 22).

Particularly relevant to the study of factors that motivate disadvantaged adults toward educational activity was the work of Boshier (1973). Through his study, Boshier forwarded the theory of congruency of self. He proposed that congruency of self was related to congruency of the individual with their ideal self as well as with other students, teachers, and the institution as a condition necessary to successful participation in adult education (p. 259). Especially thought provoking, as related to the factors of motivation and disadvantage, were two of Boshier's conclusions which are summarized as follows:

(a) The low participation rate in educational activities of adults from lower socioeconomic classes reflect the lack of congruency between the reality of their lives and the fundamental middle class environment of postsecondary education; and (b) that individuals who have a high level of dissatisfaction with self (low self-esteem) often project

the dissatisfaction with self to the educational environment and drop out (p. 260).

Rubenson (1977) utilized the previous work of Vroom (1964) and Miller (1967) to continue to develop a theoretical model of the forces at work in motivating adults to participate in adult education activities. In explaining his theory of adult education, Rubenson made a particularly powerful statement regarding the need to assimilate the nation's educationally disadvantaged groups into adult education activities.

To correct the social bias of adult education recruitment, a system of recurrent education needs to include positive discrimination in favor of the nation's educationally weakest groups. In addition to socio-economic measures, greater interest will have to be devoted to the total living situation of these individuals. Participation in adult education is not an activity apart from the rest of the individual's life, it is closely bound to the various roles occupied by the adult, such as the family role, the vocational role, the social role and the leisure role. In order to be able to take the right measures to realize the idea of recurrent education, we must improve our understanding of the reasons why adults participate in education and the factors which influence their motivation. (p. 32)

Disadvantaged Adults as Learners

There has been a growing concern for the nation's disadvantaged adults based on the potentially negative impact that these individuals present to the current and future societal and economic welfare of the United States. In response to this growing concern, federal and state

legislative efforts have focused on postsecondary vocational education as a means to assimilate greater numbers of these disadvantaged adults into vocational education leading to gainful employment. As a result of these legislative efforts, a great deal of pressure has been placed on the field of adult education to fully understand the personal factors disadvantaged adults bring to the learning setting as well as to understand the difficulties disadvantaged adults encounter in attempting to successfully complete vocational training programs. This pressing need to reach and serve the disadvantaged adult learner has kindled an enlarging area of research in the field of adult education. Smith and Martin (1972) studied the personal characteristics of disadvantaged adults. The characteristics they defined continue to have relevance for understanding disadvantaged adult learners in the 1990s. This study defined that "the disadvantaged adult was most often a disadvantaged child who had a history of school failure due to inadequate parental guidance, isolation from the main stream of American culture, inadequate curriculum, and/or inadequate nutrition and housing" (p. 11). Their study also supported the hierarchial needs findings of Maslow (1970) when they stated, "Even though the educational program may be important to the disadvantaged adult, sheer survival needs will have priority over it" (p. 14). Smith and Martin (1972) carried their research beyond the identification of

personal factors related to being disadvantageded and studied the characteristics of disadvantageded adults as learners.

They determined the following:

(a) Disadvantageded adults tend to be pragmatic learners as do many middle class adults. Some of the most effective learning is related to the need to get a job, receive a promotion, or avoid being cheated; (b) they want to be treated with dignity. If in the learning laboratory, these students are treated like inferiors, they will leave the program; (c) they are like other adults in that they are interested in learning in a flexible situation where they are treated as independent learners where they can progress at their own rate and not some artificial time module rate; (d) like other adults, disadvantageded adults have their dream worlds. Some come to the learning setting with unrealistic or long-term objectives. These objectives may be modified through counseling and through an attainable short-term objectives. This permits early success and this success offers motivation toward the next goal. (pp. 11-13)

Wells and Ulmer (1972) conducted research to provide insight into the appropriate administration of educational programs which targeted disadvantageded adults. In the summary of their study they stated, "Enticing the disadvantageded adult to enroll and preventing him from dropping out requires infinite knowledge of the psychology of the disadvantageded and skill in meeting his needs" (p. 5). They further explained the difficulty inherent in administering programs for disadvantageded adults.

Those disadvantageded adults for whom the programs are intended are difficult to reach, difficult to teach and difficult to keep. They have been losers in the game of life who are trying to recoup their losses, with deep misgivings over whether they will win or add another loss to the record. They come in doubt, learn with

difficulty, and remain only because of the ingenuity of their instructors. They are not intimidated by tardy bells, compulsory laws which require slavish attendance, or by those who live and breathe by the rule book. Their answer to such establishmentarianism is to rejoin the growing army of drop-outs. (p. 7)

The personal characteristics of disadvantaged adults as learners which were identified by Wells and Ulmer in their 1972 study continue to have contemporary relevance.

The disadvantaged adult has often become apathetic as a result of numerous failures in previous efforts; they are likely to suffer from poor self-concept; they will often show hostility toward institutions which can help them the most because of previous real or imagined experiences in dealing with them; and, they are fearful of authority and often distrust those around them who are in a position to assist them. (p. 14)

Johnson (1991) utilized the term "nontraditional" (p. 1) to characterize disadvantaged adult learners who, "due to their unique situations, individual characteristics, and personal needs, experience additional barriers or difficulties in successfully completing postsecondary education programs" (pp. 1-2). He continued his description of these adult learners as follows:

Researchers have tended to view the nontraditional student as older than the typical student attending a postsecondary education program, academically and/or economically disadvantaged (e.g., high school dropout, welfare recipient, single head of household), racially or ethnically different, in possession of special learning needs (disabled), or non-English speaking. (p. 2)

Brown, Fjeld-Joseph, and Wotruba (1992) utilized the term "at-risk learners" to describe disadvantaged adults in

postsecondary vocational education programs. The description of the personal characteristics of these adults, as related to their interaction with the educational environment, provided particularly relevant information regarding the efficacy of postsecondary vocational education programs in meeting the special needs of disadvantaged adults as learners.

Students who perform below their ability levels, who are unwilling or unable to invest sufficient effort to fulfill program requirements, or who display inappropriate behaviors are likely to drop out before attaining educational and career outcomes commensurate with their ability levels. These at-risk adult learners frequently become discouraged when they encounter educational environments that they perceive as noncaring, as unwilling to respond or understand their unique attributes, and/or as being unable to accommodate their special learning needs. Such students often experience increased and ongoing feelings of stress. Because of this, increasing alienation emerges as a consequence of inability to effectively manage the stresses associated with their educational programs. Such circumstances diminish their abilities to attain their educational goals, thereby increasing their tendencies to drop out. (p. 1)

Disadvantaged Adult Participation in Postsecondary Education

The early studies of the participation patterns of adults in postsecondary education revealed low enrollment of disadvantaged segments of the population. Johnstone and Rivera (1965) reported that one of the most persistent findings emerging from their inquiry was that "a great disparity existed in involvement in continuing education of

segments of the population situated at different levels of the social hierarchy" (p. 231). According to Cross (1981):

Enrollment statistics document the socioeconomic elitism of adult education. The following groups are seriously underrepresented in organized learning activities today: the elderly, blacks, those who failed to graduate from high school, and those with annual incomes under \$10,000. Even those who are looking for work, who presumably have the time and the need for further education, are less likely to be participating in educational activities than those with jobs. (p. 53)

Contemporary participation studies have, on an increasingly frequent basis, considered the factor of being disadvantaged either by reason of educational background, socioeconomic status, or handicapping condition. A study that has particular relevance to the current problem of how to effectively assimilate disadvantaged adults into postsecondary vocational education was conducted by Anderson and Darkenwald in 1979 (as cited in Cross, 1981). Through their work they attempted to explain the low participation rates of the lower socioeconomic classes. Their complex statistical analysis revealed that:

Educational attainment exerts its powerful impact on adult education participation relatively independently of other components of socioeconomic status, such as income and occupation. High school graduation seems to hold special significance. The adult learning participation rate for those completing two years of high school is 4.1%; for those with three years of high school, it is 6%; for high school graduates, it surges ahead to 11%. One possible explanation is that dropping out of high school is generally considered failure in our society, and high school dropouts, having experienced educational failure once, are not eager to try again. Therefore, if

the poorly educated are to be attracted into learning activities as adults, the major problem may be to overcome their childhood experiences with school and their doubts about their ability to succeed there. (Cross, 1981, p. 55)

Further information provided from this study revealed that, after educational attainment, the most powerful predictor of participation in adult education is age. "Both interest and participation in education start to decline in the early 30s, and continue to decline gradually through the 40s with a precipitous drop for those 55 and older" (Cross, p. 57). The study also found that "race and family income, in and of themselves, have little direct effect on educational participation. Rather, the severe underrepresentation of these groups is due largely to other factors associated with poverty, especially low educational attainment" (Cross, p. 58).

Contrary to the findings of the early participation studies which identified low participation rates for disadvantaged adults, studies conducted in the 1980s revealed that "throughout the United States, disadvantaged students represent an increasing proportion of the undergraduate student population and this trend may continue as the number of traditional age college students decreases" (Johnson, 1991, p. 4). The National Institute of Education (1984) reported that of the 12 million college students enrolled in 1984, over half of the undergraduate students were women, two out of five were over 25 years old, and more

than 40% attended college part-time (p. 2). The study of student demographics completed by Astin (1975) revealed a "growing diversity among postsecondary education students in terms of racial and ethnic background and socioeconomic status" (p. 26).

Will (1984) focused his study of participation in postsecondary education on the enrollment trends for individuals with disabilities. He reported the following:

A large number of the adolescents with disabilities who are now in high school are among the first age cohort of students receiving legislatively mandated public education services. Many of these students have had at least ten years of public education guaranteed by the Education for All Handicapped Children Act enacted by Congress in 1975. Nationally, about 251,000 to 300,000 youth who receive the benefits of special education programs will exit each year from their programs. These numbers are significantly up over recent years. Many of these young people will need to access postsecondary vocational training as a means of enhancing their future employability. (pp. 3-4)

Johnson (1991) summarized the impact of the two trends in enrollment, increasing diversity in student populations and increasing numbers of students with special needs, on postsecondary vocational educational institutions.

The enrollment data of the 1980s suggests that there is a growing trend toward serving increased numbers of disadvantaged students in postsecondary vocational education. This should be viewed as positive evidence for the need to promote appropriate programs and services for these individuals. A fundamental shift in organizational philosophy and practice may, however, be required to meet this challenge. In most cases this will require more than a simple fine-tuning of existing institutional policies,

programs, and practices. A more in-depth understanding as to why students drop out, why they stay, and what appears to make a difference in enhancing their retention are critical questions for researchers and vocational education practitioners. (p. 60)

Attrition and Persistence in Postsecondary Education

Tinto (1987) introduced his study of the dimensions and consequences of student attrition from postsecondary education with a disturbing statement that "more students leave their college or university prior to degree completion than stay" (p. 1). Tinto's statement regarding the high rate of attrition from higher education is well supported by the United States Department of Education (1993) which provided the following information:

Recent years have seen a great widening of access to postsecondary education. A larger proportion of the U.S. population than ever before and a larger proportion than in any other nation enjoys the advantages of education beyond high school. But the open door to postsecondary education too often proves to be a revolving door. Of the roughly 2.6 million students entering degree programs in higher education each year, over a million never receive a degree. (p. 5)

The review of the literature in the field of adult education regarding attrition from postsecondary education revealed that the attrition rate of 50% as reported by the Department of Education in 1993 has remained constant since the first national study was completed in the 1930s. The literature also revealed that there are two differing positions, on the part of adult educators, regarding the

meaning of attrition from postsecondary education. Some educators view attrition as a two pronged failure, i.e., failure on the part of the individual to complete a plan of study and failure on the part of the institution to retain the individual until completion. Other educators view attrition, withdrawal from college, and dropping out or stopping out as having positive benefits for the individual as a learning or growth process.

Of particular relevance to the current study of disadvantaged adults in postsecondary vocational education were the conclusions of researchers regarding the attrition rate from two-year colleges. Cope and Hannah (1975) found that:

The rate of dropping out among community college students is apparently considerably higher than rates at four year colleges. Nationally it appears that approximately one half of community college students do not return for their second year and only about half of the remaining students go on to complete requirements for an associate degree. (p. 2)

Iffert's 1957 study of attrition (as cited in Cope & Hannah, 1975) found "striking differences in attrition rates among the various types of colleges, with dropouts occurring more frequently in technological institutions, teachers colleges and publicly controlled institutions" (p. 28). Astin (1975) concluded that "students of comparable ability had somewhat better chances of returning for a second undergraduate year if attendance was at a four-year college" (p. 6).

