Since the Civil Rights Act of 1964 was implemented three decades ago, society has been engaged in improving the lives of people with disabilities (Sarkees & Scott, 1986). In 1977, the Secretary of Health, Education, and Welfare, Joseph A. Califano, approved regulations for Section 504 of the Rehabilitation Act of 1973 and said, “It will usher in a new era of equality for handicapped individuals in which unfair barriers to self-sufficiency and decent treatment will begin to fall before the force of the law” (Mancuso, 1990). Legislation such as Section 508 of the 1986 Amendments to the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) in 1990 (Carney, 1990), the Individuals with Disabilities Education Act of 1990 and its 1997 amendments, and the School-to-Work Opportunities Act of 1994 were enacted to improve the lives of individuals with disabilities. This legislation was also enacted to facilitate the marketable and saleable skills of individuals with special needs and to facilitate their employment under the fewest limitations (Appell, 1990; Johnson & Halloran, 1997; National Center for Education Statistics, 1996; U.S. General Accounting Office, 1996).

In response to the requirements of the federal legislation and to increase the employment of individuals with special needs, vocational special needs educators have also been endeavoring to improve vocational programs by modifying teaching strategies and coordinating resources (Chadsey-Rusch & Gonzalez, 1988). In addition, computer technology is being applied to assist individuals with disabilities to learn and work. Further, supported employment is advocated for the employment of individuals with disabilities in the real world (Hill, Banks, Handrick, Wehman, Hill, & Shafer, 1987; Unger, 1999). Employment accommodations do not necessarily guarantee employment success until a match is found between employee capabilities and the requirements of specific jobs (Bowman, 1987; Mancuso, 1990). Further, the employment rate among special needs populations does not increase directly in relation to the activities of vocational special educators and legislators (Bowe, 1990). Expenses related to accommodating populations with special needs are one of the major American economic costs. Social welfare subsidies for people who are either unemployed or not in the workforce comprise the majority of this expense. The subsidiary costs for special needs populations who were unemployed represent a large portion of these funds. The demographically changing workforce and the declining number of available workers has caused employers to pay more attention to the need for integrating persons with disabilities into the labor market.

The success of individuals with disabilities in employment is influenced by cooperation among employers and employees, support of legislation, and appropriate efforts of vocational programs (Greenan & Tucker, 1990; National Council on the Handicapped, 1987; Salomone & Paige, 1984; Storey & Garff, 1999; Tilson & Neubert, 1988). Therefore, transition services that are developed to integrate contributions from various resources and match supply-and-demand of business and industry in communities become the emphasis of the vocational special needs agenda (Sarkees & Scott, 1986).

**Our Objectives**

We sought to (a) enhance the awareness of employers’ concerns related to the employment of people with special needs, (b) identify employers’ difficulties encountered when attempting to assimilate people with disabilities in their businesses, (c) identify difficulties in applying computer technology to assist the employment of people with disabilities in their businesses, and (d) identify government policies that encourage employers to hire people with disabilities. This knowledge will potentially assist legislators and vocational educators to improve current policies. For people with disabilities, this knowledge is also crucial to meet their entry-level job-related skills requirements and plan their careers. In addition, the results can be important considerations for educators and computer companies for improving software to meet user needs in the world of work.
What We Did

The target population for this study consisted of all employers within industries and businesses in the state of Indiana. A list of local advisory committee members of secondary trade and industrial education programs composed of proprietors and vocational special educators (N = 1,200) was used. A random sample (n = 250) was selected for this study. This population was assumed to be representative of employers in Indiana.

A cross-sectional survey was developed to collect data regarding employer perspectives concerning the employment of individuals with disabilities. The questionnaire combined the researchers’ experience, employers’ suggestions, relevant literature, and instruments used in previous research. It was revised on the basis of the suggestions and recommendations of local leadership personnel in the fields of vocational education, special education, and rehabilitation, university faculty, and several employers in Indiana. The questionnaire was composed of 24 items and focused on four key areas: (a) employer awareness of current legislation related to the employment of individuals with disabilities and success of vocational special needs education programs, (b) employer perceptions on the employability of individuals with disabilities, (c) employer difficulties encountered while employing individuals with disabilities, and (d) employer expectations of government policies and relevant services that facilitate the employment of individuals with disabilities.

A 5-point Likert scale was used to identify employer attitudes. The responses were computed using the following scheme: strongly disagree, disagree, uncertain, agree, and strongly agree. After several revisions, the questionnaire was determined to have adequate content and face validity and internal consistency reliability. In addition, the Statistical Analysis Software (SAS) statistical packages were used to code, compute, and analyze the data for the study.

Each of the 250 subjects received a cover letter and a survey instrument. The letter and instrument described a wide variety of disabilities to assist the subjects in their responses. The disability categories included, but were not necessarily limited to, mild and moderate mental, physical, and learning disabilities, and visual and hearing impairments. Three weeks after the first mailing, the first follow-up letters and surveys were mailed to all nonrespondents. Second and third follow-up letters and surveys were mailed six and nine weeks after the initial mailing to all nonrespondents. After the final mailing, follow-up telephone contacts were made to all nonrespondents. The final response rate was 76% (n = 190), including usable and nonusable responses. To diminish the possible nonresponse bias caused by the low response rate, a method of resampling was used (Hartman, Fuqua, & Jenkins, 1986; Miller, & Smith, 1983). Resampling consisted of obtaining responses using telephone interviews from a sample (n = 10) of nonrespondents (N = 60). If item response results for the respondent and nonrespondent groups were not significantly different, it could be concluded that nonresponse bias did not exist.

The SAS packages were selected to generate descriptive statistics to answer the four research questions posited for this study. Both qualitative and quantitative methods were used to analyze the data. Open-ended responses were coded and analyzed for the four research questions using qualitative methods.

Resampling strategies using the telephone interview method were conducted to identify the reasons for nonresponses and the difference between opinions of respondents and those of nonrespondents. The comparison of results from respondents and those from resampled nonrespondents using an F test indicated that these two groups had similar awareness of the impact of the current legislation on employment of people with disabilities (F = 0.0, p = .99), information resources about vocational rehabilitation programs (F = .26, p = .61), and knowledge of assistive technology for people with disabilities (F = 1.08, p = .30). Since most of the resampled nonrespondents had no experience with people with disabilities, fewer than 5 of the 10 nonrespondents provided responses to research questions 2, 3, and 4. Quantitative data from fewer than five respondents are usually not considered statistically relevant. The F test indicated these two data sets were not significantly different. In addition, these two data sets yielded similar qualitative responses to the open-ended items.

All resampled nonrespondents stated that they had no experience working with people with disabilities. The major reasons for employers not hiring nontraditional employees were either their businesses were characteristic of intensive labor, such as driving and pushing
trucks, or their businesses were too small to accommodate employees with disabilities. The majority of resampled nonrespondents also stated that they would be willing to employ qualified employees with disabilities if they applied. These responses were very similar to those of the respondents. It is, therefore, logical to conclude that the respondents’ opinions could reasonably represent the opinions of the entire sample for the study.

What We Learned

Our findings are organized around the research questions that guided this study. They include:

1. **To what extent are employers informed about the achievement of local vocational special education programs and current legislation with respect to the employment of individuals with disabilities?**

   In regard to employers’ awareness about the contribution of legislation and education on employment of people with disabilities, employers were somewhat aware of the impact of current legislation (e.g., the ADA) on people with disabilities ($M = 3.75, SD = .83$) and assistive technology for people with disabilities ($M = 3.60, SD = 1.00$), and they were also informed about the success of vocational rehabilitation programs for people with disabilities ($M = 3.43, SD = 1.00$). Although, there appears to be relative disagreement among respondents, employer awareness might indicate a concern with the employment of persons with special needs. The general public’s intensive concerns with the current development of employment transition for individuals with disabilities are usually the main driving force for its implementation.

2. **How satisfied are employers with the job-related performance of employees with disabilities?**

   Employers demonstrated a willingness to hire qualified individuals with disabilities ($M = 3.98, SD = .69$). Employers generally believed employees with disabilities could perform as well as employees without disabilities ($M = 3.48, SD = .96$). Employers neither believed that employees with disabilities were unable to satisfy job requirements ($M = 2.65, SD = 1.08$) nor that they were unable to get along well with coworkers ($M = 2.12, SD = .87$). Employers also reported that their employees no longer worked for them because they sought other employment ($M = 3.06, SD = .92$).

   In response to the open-ended questions, the reasons employees with disabilities were no longer employed included:
   - We do not have experience in having employees with disabilities (25 responses).
   - We have lost a few employees in the last eight years; if an employee with disabilities has left, his or her reason was not different than other employees without disabilities (1).
   - They (employees with disabilities) sought a job they could do well (1).
   - One gentleman got his workman’s compensation settlement after his injury and quit to start his own business with the money (1).
   - Employees with disabilities had personal problems that other people without disabilities have to some extent (1).
   - Most employees were unable to get along with others (1).

   Employers generally supported the employment of individuals with disabilities. They were also impressed with these persons’ academic and interpersonal skills and favorable attitudes toward work. These perspectives are the fundamental and crucial components of successful employment transition for individuals with disabilities (Carney, 1990; Greenan & Tucker, 1990). The majority of surveyed employers stated that they did not have experience with employees with disabilities because none applied for jobs at their sites. The fact that most individuals with disabilities were not in the education pool also caused employers difficulty in hiring qualified disabled employees. Some employers indicated that employees could not get along well with coworkers. This finding implied that social distance existed to some extent between individuals and their environments by counseling interventions such as expectation adaptation, behavior modification, and communication improvement (Szymanski, Hanley-Maxwell, & Asselin, 1990). Further, employers needed...
3. What difficulties do employers tend to encounter while employing individuals with disabilities?

Employers possessed a variety of attitudes toward the job skills of people with disabilities (\(M = 3.03, SD = 1.00\)). In employing people with disabilities, employers did not believe these people have the following difficulties: inadequate academic skills (\(M = 2.61, SD = .86\)), negative attitudes toward work (\(M = 2.32, SD = .74\)), and lack of interpersonal relationship skills (\(M = 2.57, SD = .74\)). Employers reported that they were slightly aware of information resources of peripheral and assistive devices (\(M = 2.86, SD = .93\)). Also, employers believed that assistive devices were applicable to their businesses (\(M = 2.71, SD = .91\)). Their opinions on the affordability of assistive devices varied (\(M = 3.14, SD = 1.02\)). Small businesses generally reported that this type of assistive equipment was too expensive.

The open-ended responses indicated that:

- We are willing to take a chance when a good match of a student's needs and training site is found.
- Abilities to think and act quickly are needed for most of our jobs, but then most employees without disabilities have the same problems.
- No individual with disabilities has applied for a position to date.
- Few applicants with disabilities in the education pool have disabilities.
- I do not think they (individuals with disabilities) can apply to my business (an engineering lab setting, a woodworking lab, railcar maintenance industries, or other labor intensive businesses).
- In industries, only a skilled and semiskilled workforce is needed. No job is available for them (employees with disabilities).
- To date, there is no training required by state law. There is an inability to make adaptations.

Regarding difficulties in providing peripheral and assistive devices to employees with disabilities in employment, employers generally possessed uncertain and a variety of attitudes toward accessibility to relevant resources and the affordability of equipment. However, employers generally believed that assistive technology would be available to their businesses in order to enhance the employment of people with disabilities. In spite of some employers' statements that no problems existed with employees with disabilities, the open-ended responses indicated some reluctance toward applying assistive technology in the employment of people with disabilities:

- It (applying advanced technology to employment of people with disabilities) has not become important.
- We do not have experience in this area.
- We do not have adequate information regarding this type of assistive technology.
- Cost is difficult for a small business.

Employers participating in this study generally believed that individuals with disabilities possessed the fundamental job requirements such as general job skills, academic skills, attitudes toward work, and interpersonal skills. However, the high unemployment rate of these competent individuals could result from either their lack of specific skills for certain jobs or their lack of motivation to seek and obtain employment. Employers speculated that education systems could provide more specific job skills and counseling services to individuals with disabilities and help them initiate careers from available job positions. It may be due to the employers' limited understanding, special needs populations' lack of job skills, or poor communication between employers and individuals with disabilities. Some employers believed that people with disabilities could not work in labor-intensive job settings. Employers realized the feasibility of assistive technology for the employment of individuals with disabilities and recognized the availability of information resources. However, unacceptable high costs were believed to be the main obstacle for purchasing this type of equipment. This finding was contradicted by employers who had utilized assistive devices and found that the costs of remodeling and purchasing assistive equipment for disabled employees were close...
to that for employees without disabilities (National Council on the Handicapped, 1987).

The beliefs of employers concerning the high costs of assistive devices might reflect that inadequate information has been provided by rehabilitation agencies and assistive technology manufacturing companies. Several governmental funding programs and assistive device manufacturing companies have been established to financially assist industry and business in purchasing assistive devices (Reeb, 1989; Webb, 1992). However, these policies seemed not to be known and benefit potential consumers. Dissemination plans regarding the availability and utility of these resources should be known for the development and utilization of advanced technology.

4. What support services do employers tend to need to successfully employ people with disabilities in their businesses?

In order to support the employment of people with disabilities, employers were willing to provide employment opportunities ($M = 3.77, SD = .63$), job training ($M = 3.38, SD = .86$), and promotion of job redesign ($M = 3.31, SD = .85$). Respondents demonstrated various interests in providing monetary contributions such as financial contributions ($M = 2.80, SD = .91$) and tools and/or equipment used in their business ($M = 3.01, SD = .83$) to vocational programs.

The incentive factor that would most effectively encourage the employment of individuals with disabilities was public support (e.g., equipment subsidies, funding, staff, and employee training; $M = 3.62, SD = .91$), followed by tax benefits ($M = 3.51, SD = .96$), access to a community resource network ($M = 3.51, SD = .82$), and public relations ($M = 3.36, SD = .92$).

Regarding the factors encouraging employers to hire people with disabilities, employers responded that:

- Proper training and skills are only needed; no outside help is needed.
- Employers have no problem with hiring people with disabilities when they are able to perform needed jobs and jobs are available at the same time.
- Getting the government out of the private business sector makes it easier to terminate employees.

Since employers were willing to provide job training and employment opportunities to individuals with disabilities, it could explain their concerns with special needs populations and their realization of the importance of employment for people with disabilities. This assumption also indicates that employers believed that only specific job skills for certain positions were needed in industry and business. Employers were generally hesitant to provide monetary contributions to local vocational rehabilitation programs. This might imply that employers were not sure how contributions would be used. That is, employers might be unaware of the successes and activities of local vocational rehabilitation programs.

However, monetary incentives such as tax benefits and public supports were higher priorities than others. Employers believed that accessibility to a community resource network would effectively encourage them to hire employees with disabilities because of the importance of information resources. Employers desired financial aids to purchase assistive devices and remodel facilities for nontraditional employees, and they needed staff and employer training programs to improve their administrative strategies for supervising employees with whom they were not familiar. Some government regulations regarding the employment of individuals with disabilities were viewed as inappropriate, even harmful, to industry and business. This response demonstrated that either employment transition plans needed further communication among legislative agencies and communities or the appropriateness and effectiveness of government regulations should be reevaluated. Disability professionals, therefore, play a crucial role in bridging the gap between employers and individuals with disabilities and facilitating the interdisciplinary collaboration for the success of employment transition for individuals with disabilities (Szymanski et al., 1990).

When asked to make additional comments, suggestions, and recommendations regarding the employment of individuals with disabilities, individual employers responded that:

- The only comment I would have is the degree of disability and the equation between production and wages.
- I believe people with disabilities are capable of doing a very good job in certain positions, however, our business is
very labor intensive and I am not sure in this case. It would depend on the particular disability.

- I have employed a disabled employee. He was capable in electrical construction activities. Safety is primary. A prospective employee must be capable of performing construction activities without jeopardizing his or her own safety or the safety of his or her teammate.
- If they know how and are able to perform, I will hire them just like anyone else.
- We run only a small business and do not have funds to renovate our whole facility to accommodate physically handicapped persons. However, we are willing to work with the mentally impaired.
- The labor pool, handicapped or not, is basically unskilled. We need more semiskilled and skilled workers. The biggest threat to our business and the creation and retention of jobs is government regulation.
- We have hired one person in the last 6–7 years. If a person can handle a job and has a disability, no problem. We are too small and too poor to provide special training. We cannot afford to go far enough on health insurance for those we employ.
- The one person employed who has a disability, left leg crippled by polio, I found that he thinks the world owes him a living.
- Besides employment opportunities, we utilize a rehabilitation center whenever possible for cleaning and simple manufacturing services.
- I would like to see improvements in job training on electronic motor repair, wheel pump repair, and office jobs.
- Better public relations are needed. It is too expensive for employers to accommodate them. Who is going to pay for the remodeling of facilities?
- I am appalled that the Congress and some branches of the federal government have been excluded.
- Our people must do shampoos, styles, cuts, fingernails. These jobs may be difficult for a disabled person to perform.
- Our business has no need for extra employees. Farming involves use of heavy machinery and chemicals under sometimes adverse conditions. There would be no place here for most handicapped people and use of them could develop life-threatening situations. Liability would be too great.

Most employers obviously held favorable attitudes toward individuals with disabilities and were willing to hire them if their job skills matched available positions. Applicants’ specific job skills, interpersonal relationship skills, motivation to search for employment, and knowledge about safety were the major considerations in employment practice. To the proprietors of small businesses, individuals with disabilities were generally perceived to be unqualified due to their lack of versatility in several different types of job positions. The financial investment in remodeling facilities and purchasing assistive devices for employees with disabilities were major difficulties in hiring them. However, the existing financial aid programs seemed not to benefit them due to limited marketing plans or inappropriate strategies. From the employers’ point of view, government incentive policies could facilitate employment transition for individuals with disabilities; whereas, mandatory regulations would only prevent employers from hiring these nontraditional employees. In order to overcome the barriers existing in the employment of nontraditional employees, industry and business need disability professionals to provide strategies for supervising and communicating with employees with disabilities. They also expected government to provide appropriate job training to individuals with disabilities before requiring them to hire these nontraditional employees. Therefore, further communication and professional coordination among resources in employment transition were the highest needs at this time.

Implications and Importance

Contributions from a variety of resources, such as legislation, vocational special education, assistive technology manufacturing companies, and individuals with disabilities, have created a remarkable impact on the employment preparation of individuals with disabilities. However, the current low employment rate of special needs populations seems to result from poor transition planning, lack of program coordination, and insufficient information resources (Szymanski et al., 1990). This study was conducted to further understand the
existing obstacles and possible resolutions to the improvement of employment of individuals with disabilities. The foci of this study included employers’ awareness of current legislation regarding employment of special needs populations and the activities of vocational rehabilitation programs, employers’ difficulties and expected incentives when they try to hire nontraditional employees, and the availability of applying assistive technology to their businesses for special needs employees.

As with most studies, this study had some limitations. The sample used was randomly selected from local advisory committee members of secondary trade and industrial education programs in the state of Indiana. However, these employers did not likely represent all employers in the state of Indiana. It was assumed that employers would be entirely frank to express their perspectives on the posited questions, but some employers might have tried to avoid the suspicion of discrimination and concealed their negative attitudes toward some issues. The other limitation could be caused by the low response rate. Only 41.04% of the sample completed the survey questionnaires. In order to minimize the possible nonresponse bias, a telephone follow-up survey of nonrespondents was utilized to identify the reasons for nonresponse and the differences between perspectives of nonrespondents and respondents. The telephone follow-up survey revealed that nonrespondents possessed perspectives similar to the respondents. Therefore, only low response bias may exist.

Several conclusions may be drawn from this study. First, employers were generally concerned with the employment of individuals with disabilities and relevant issues regarding people with disabilities. Second, employers were impressed with these persons’ high potential to work in terms of academic skills, interpersonal skills, and positive attitudes toward work. Third, employers also realized the function of assistive technology used for the employment of individuals with disabilities and the importance of employment for individuals with disabilities and communities. They were willing to provide employment opportunities and relevant contributions to them whenever applicants’ job skills matched certain positions.

The favorable perspectives of employers provided an advantageous environment for the employment transition of individuals with disabilities. However, the existence of the low employment rate of individuals with disabilities implied that several challenges still existed in some aspects such as counseling services, vocational programs for special needs populations, government policies, and the development and utilization of assistive technology and included the following: Limited communication among employment transition agencies inhibited individuals with disabilities from entering and succeeding in employment; employers perceived that vocational rehabilitation programs failed to prepare individuals with disabilities with the specific job skills needed in the world of work; some government regulations were believed to be inappropriate, even harmful, to the employment of individuals with disabilities; and employers realized the applicability of assistive technologies but did not benefit from it due to limited accessibility to information resources and financial aids.

Successful employment transition of nontraditional employees needs more professional coordination and transdisciplinary collaboration than individual service delivery systems (Szymanski et al., 1990). Accordingly, the following recommendations are offered:

1. Further communication and collaboration among a variety of agencies and resources should be facilitated by counseling services that are important to the employment transition for people with disabilities.

2. Vocational programs for special needs populations should consider the recommendations of business and industry along with student needs to better prepare students for employment.

3. Teachers in special needs education are the first counselors and facilitators. They should develop and implement appropriate curriculum and instruction for students with disabilities to improve their job-related skills and motivation for work.

4. Some government regulations related to the employment of persons with disabilities should be reevaluated and adjusted to match employer considerations and needs.

5. Professional coordination is necessary to satisfy the assistive equipment needs and interdisciplinary collaboration of
individuals with disabilities.

6. Disability professionals at the university level should provide industry and business with professional training concerning strategies for supervising employees with disabilities to assist employers to manage issues accompanied with nontraditional employees.

7. Future studies should include more diverse samples and populations to examine the issues from a greater variety of employers.

8. Further studies should consider adopting naturalistic methods of inquiry, such as case study, to gain a more in-depth understanding of the issues under examination.

Dr. James P. Greenan is a professor in the Vocational and Technical Department at Purdue University, West Lafayette, IN.

Mingchang Wu is an associate professor and chair in the Department of Vocational and Technical Education, National Yunlin University of Science and Technology, Taiwan, R.O.C.

Elizabeth L. Black was an undergraduate research trainee in career and technical education in the Department of Curriculum and Instruction, School of Education, Purdue University, West Lafayette, IN.

References


Webb, B. W. (1992). *But, we don’t have the money.* (ERIC Document Reproduction Service No. 345458)