A collaborative model to promote career success for students with disabilities

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Many young people entering the workforce are not well prepared to meet the demands of a dynamic work environment. Students with disabilities benefit from work-based learning activities as much as, if not more than, their non-disabled peers. Unfortunately, many school-to-work programs in high school and cooperative education and internship programs in college do not fully include students with disabilities, a group that represents an increasing proportion of today’s school population. The University of Washington conducted a three-year project to help students with disabilities head toward successful careers by using a holistic and collaborative approach. Besides the students served, the team includes staff from precollege and postsecondary educational institutions, parents, mentors, employers, and community service providers. A post-work-experience survey was developed to answer the question “What impact do work-based learning experiences have on career-related attitudes, knowledge, and skills for students with disabilities?” Participants reported considerable benefit from their work-based learning experiences. They gained motivation to work toward a career, learned about careers and the workplace, gained job-related skills, learned to work with supervisors and co-workers, and developed accommodation strategies.

Keywords: Disability, work, careers, internships, technology, college, parents, mentors, Internet

1. Introduction

Changing demographics, advancing technologies, and increasing international competition have combined to make the preparation of workers for the modern workplace a critical issue today. Unfortunately, many young people entering the workforce are not well prepared to meet the demands of a dynamic work environment. The challenges of preparing young people for employment and facilitating the smooth transition from school to work spurred the enactment of the federal School-to-Work Opportunities Act of 1994 (STWOA), which requires that schools offer opportunities for work-based learning and mentoring and implement programs for the development of positive work attitudes, group work skills, and other occupational competencies.

Education Goals 2000 identifies preparation for paid work as a high priority, but notes that current training and support are often not delivered effectively [18]. Local, state, and federal authorities, educators, employers, and researchers often disagree on the best strategies for implementing important services in this area. According to the National Governors’ Association (as cited in [8]), “in the past it was possible to tolerate . . . a haphazard approach to school-to-work transition . . . [but] today the waste in human potential that results no longer can be afforded”.

Programs that connect students with the world of work prepare them for entering the workforce. In work-based learning activities, young people apply academic and vocational skills and knowledge to real work situations as they develop the attitudes, values, problem-solving skills, and behaviors that will help them become informed citizens and productive workers. Through job shadowing and mentoring, students learn about job possibilities and conditions of employment. Through volunteer work, internships, apprenticeships, and job placements, students apply academic knowledge and experience to the work environment firsthand [2–4,14, 15,19,20].

Students with disabilities benefit from work-based learning activities as much as, if not more than, their non-disabled peers [5,6,11,12]. Unfortunately, many school-to-work programs in high school and cooperative education and internship programs in college do not fully include students with disabilities, a group which represents an increasing proportion of today’s school population. Unique issues for serving students with disabilities cross several program jurisdictions and relate to transportation, accommodation strategies, adaptive equipment, safety, support services, communica-
tion strategies, and career advising. The general requirements of a work-based placement combined with the unique needs of a student with a disability can be daunting to busy program coordinators. However, this population has an equal right to work-based learning opportunities. The fact that only 29% of adults with disabilities ages 18–64 years work full or part-time, compared with 79% of those without disabilities [13], makes implementing practices that promote the success of people with disabilities in employment of critical importance.

Federal legislation has mandated policies to ensure assistance for precollege students with disabilities as they transition to adult life. The Individuals with Disabilities Education Act of 1990 (IDEA) promotes the development of an Individualized Transition Plan (ITP) for students 14 years of age and older. The ITP focuses on community-referenced learning to prepare young people for adult roles in their communities. In addition, the Americans with Disabilities Act of 1990 (ADA) represents a commitment to people with disabilities to fully participate in public programs and, ultimately, fulfill typical adult roles in society [17].

Although legislation and public policy provide general direction, all stakeholders in the education of students with disabilities must be creative and diligent in developing work-based learning offerings. Community sector partnerships can serve as the driving force in planning and implementing school-to-work programs [8,10].

The DO-IT CAREERS project represents an example of how a team approach can successfully provide career preparation and support for precollege and college students who have disabilities. This article shares lessons learned from this innovative program. By employing the successful practices of DO-IT (i.e., Disabilities, Opportunities, Internetworking and Technology), other groups, organizations, schools, and employers may also be able to increase the participation of students with disabilities in work-based learning activities.

2. Description of the program

The University of Washington’s DO-IT program ran a three-year project for students with disabilities which was funded by the US Department of Education and continues to employ successful strategies in program offerings. DO-IT CAREERS (Careers, Academics, Research, Experiential Education, and Relevant Skills) helps students with disabilities head toward successful careers by using a holistic and collaborative approach. DO-IT CAREERS increases opportunities for students with disabilities to gain work experiences and skills to help them reach their ultimate career goals. The DO-IT program collaborates with community partners to serve precollege and college students with all types of disabilities and involves adults with disabilities in events, panels, and electronic mail communication to expose students to successful role models. Sixty high school and postsecondary students completed 104 placements over the three-year grant period. It is estimated that more than 1,000 other students benefited from the project through workshops, literature and videotape dissemination, and Internet correspondence. In addition, DO-IT CAREERS activities provided information to more than 1,000 employers, educators, and service providers about the legal rights, capabilities, and needs of students with disabilities, thereby promoting the full inclusion of this population in existing programs. Parents and mentors were also included in program efforts to ensure that students were encouraged to pursue higher education and careers.

2.1. The DO-IT CAREERS team

Although DO-IT’s goals are student-focused, project methods for achieving the goals are team-based. DO-IT CAREERS developed a flexible model that allows students to participate actively in their own career development. But DO-IT understands that students are only one part of a larger picture. Teachers, counselors, career specialists, and other school staff; cooperative education and career services staff on postsecondary campuses; employers; and government agencies play key roles. Parents and mentors also have an impact on employment outcomes for young people with disabilities. It has been said that it takes a village to raise a child. DO-IT CAREERS has also found that it takes a team to assure successful postsecondary and career outcomes for people with disabilities.

For example, Roy, who has been blind since birth, began participating in DO-IT activities while he was in high school. DO-IT provided him with access to a computer, adaptive technology, and the Internet. He communicated with peers and mentors who have disabilities. After transitioning to college and pursuing studies in computing, Roy was assisted by DO-IT CAREERS staff to locate an internship at a local company. His success there led to full-time employment after college graduation. This successful outcome resulted from a team effort. The team included Roy, DO-IT staff, his
parents, mentors, postsecondary student services counselors, human resources staff, and his on-site supervisor. Each team member had significant roles to play. DO-IT helped Roy gain access to technology, a support network, and an internship opportunity. Roy developed the knowledge and skills he needed through his college studies, became an expert on his own accommodation needs, took advantage of opportunities offered to him, and problem-solved accommodation strategies. His parents and DO-IT mentors encouraged and supported him. The student services office for students with disabilities at his college, the human resources staff at his internship site, and his supervisor demonstrated the creativity and flexibility required for success in academic and work experiences.

DO-IT staff members facilitate teamwork. The next few sections of this article (a) illustrate how team members work together to support the career goals of students with disabilities and (b) report the results of a survey to determine the impact of work-based learning experiences on students with disabilities.

2.1.1. Educators, service providers, and employers

Through its collaboration with existing organizations and individuals, DO-IT CAREERS is able to leverage the resources of many community partners. These include cooperative education, services for students with disabilities, and career services programs at the University of Washington and other institutions; the state Department of Vocational Rehabilitation; pre-college schools; representatives of business and industry; and the non-profit sector. These stakeholders counsel students; provide internships; help locate jobs; support participants at worksites; provide staff to review student resumes; and participate in mock interviews, presentations, and panel discussions.

Staff members at DO-IT answer calls and e-mail from educators, agencies, parents, and employers and make a rich set of printed, videotaped, and Web resources available world-wide. DO-IT’s expertise covers diverse areas, including disability types, accessibility solutions, career issues, learning strategies, assistive technology options, and accessible Web page design. DO-IT CAREERS staff members arrange disability awareness training for educators; staff members of existing school-to-work, cooperative education, internship and other work experience programs; and employers. These audiences are key to the coordinated delivery of successful work-based learning and many have yet to learn how to fully include students with disabilities in their programs. DO-IT CAREERS promotes strategies that maximize the involvement of the students themselves and that result in the full inclusion of students with disabilities in work-based learning opportunities. Training sessions provide information about legal issues, technology, and strategies for accommodating students with disabilities in the workplace, in school career service offices, and in work-based learning programs. Training opportunities as well as experiences with students also give potential employers greater confidence in the skills and abilities of students with disabilities.

Printed materials, videotapes, and Web resources are an essential part of DO-IT’s dissemination activities. These resources extend the impact of DO-IT CAREERS to employers, service providers, educators, parents and students beyond those directly served by project activities. The project videotape and accompanying handout entitled Finding Gold: Hiring the Best and the Brightest is for employers and Access to the Future is for postsecondary career services and cooperative education programs. DO-IT CAREERS staff also created comprehensive training materials for employers and service providers, entitled Career Development and Students with Disabilities: PRESENTATION AND RESOURCE MATERIALS. Many people use DO-IT CAREERS resources to make their programs more inclusive and to teach others. Recipients of the project notebook document the need for training materials for the stakeholders as well as the far-reaching impact of this project. Their responses include:

- This is a large volume of information that I am eager to share with consumers and employers. I intend to share it with DVR counselors (10–15 people, affecting 1500 consumers).
- Outstanding! These materials are just what I have been searching for! Thanks. I intend to use these materials for college – wide staff development activities (200–300 per year) and I plan to have seminars on-campus for students.

DO-IT CAREERS project materials have been distributed widely through mailings, workshops, and conference exhibitions. Project videotapes are shown on cable television and are sold through DO-IT’s educational sales program. The DO-IT Web site (http://www.washington.edu/doit) includes an extensive collection of resources and was developed using universal design concepts so that it is accessible to visitors with disabilities using various types of adaptive technology.
2.1.2. Parents and mentors

Parents and guardians are included on the DO-IT CAREERS team. In some cases, they simply encourage their children to participate, sometimes after project staff promote the idea. In other cases, they are more actively involved in providing transportation, locating placement opportunities, coaching their children, and working with school personnel. Adult and peer mentors, many with disabilities themselves, also encourage participants. They share accommodation strategies, employment opportunities, and their successful and challenging experiences in locating and participating in employment. Participants and mentors engage in lively exchanges of advice and experiences whenever questions are posed on DO-IT electronic discussion lists. The efforts of parents and mentors contribute to positive academic and career outcomes for students with disabilities.

2.1.3. Students with disabilities

Support to students with disabilities in DO-IT CAREERS comes in person, by phone, and on the Internet. Through conference participation, school visits, Internet communication, referrals, field trips, and displays on campuses, hundreds of students have gained knowledge and skills regarding resume writing, interviewing, technology, career options, legal rights, and accommodations. Training sessions and consultations emphasize key steps in a successful career plan:

**C** is for Careers. Think about what interests you. Be imaginative, then narrow down the list.

**A** is for Academics. Determine which academic programs best suit your career goals.

**R** is for Research. Research careers that spark your interest, maximize your strengths, and minimize your weaknesses.

**EE** is for Experiential Education. Practice job search skills. Participate in internships, service learning, cooperative education programs, or other work-based learning opportunities.

**RS** is for Relevant Skills. Use on-the-job experiences to learn practical “real world” skills. Test which accommodations work best for you.

A videotape and a brochure, both entitled It’s Your Career, were developed for students with disabilities and distributed widely as part of the initial three-year project. They are now sold through DO-IT’s educational sales program.

Electronic and in-person peer and mentor support in DO-IT CAREERS extend across disability types and allow people who would normally not have contact to learn from each other [7]. For example, students who are deaf learn from each other and mentors with similar disabilities, but they also gain insights from students with learning, visual, and mobility disabilities. Electronic mail discussions and resources on the Web provide a wide range of support and information for students. Via electronic discussion lists, project staff members keep more than 200 students with disabilities informed of resources and opportunities for work-based learning. Students frequently report how they gain useful information and support from peers, mentors, and staff via e-mail communication, and how Internet use fosters independence in pursuing academics and careers.

The DO-IT CAREERS team recruits students, facilitates technology acquisition, helps students develop self-advocacy and job search strategies, provides role models, and locates internships and other work-based learning opportunities. DO-IT CAREERS provides support to students placed in jobs by assisting them with work-related accommodation issues, Social Security Income rules, and communication with sponsoring organizations and supervisors.

During the initial three-year project, sixty high school and college students with disabilities were placed in work-based learning experiences. Students were offered a total of 114 placements; 104 were accepted. These ranged from one-time speaking engagements to six-month cooperative education placements to full-time jobs. Fifty-nine positions were for pay; 45 were unpaid. In the group of sixty students who were placed in at least one work-based learning experience, 33 are male and 27 are female. Of this group, 33 students have mobility impairments, ten are blind, six have low vision, five are deaf or hard of hearing, seven have speech impairments, eleven have health-related disabilities, two have Attention Deficit Disorder, and eight have specific learning disabilities. Since some students have multiple disabilities, this total is greater than 60. One or more goals were established in an initial assessment. Examples of goals for a specific participant include (a) to develop communication and interpersonal skills, (b) to expand experience with technology, (c) to assess ability to perform essential job functions or production level, (d) to develop public speaking or presentation skills, (e) to determine accommodation strategies, (f) to develop or update a résumé, (g) to obtain career-related knowledge, and/or (h) to
prepare for transition to permanent employment. According to staff observations, all participants made progress toward their goals through their work experiences.

3. Study design, methods, and results

DO-IT CAREERS staff members were interested in determining the value of the work-based learning experiences in which students participated during the initial three-year project. A post-work-experience survey was developed to answer the question “What impact do work-based learning experiences have on career-related attitudes, knowledge, and skills for students with disabilities?”

Participants were asked to rate the levels of change, if any, in specific areas as a result of their participation in particular work experiences. They were asked to estimate changes in their motivation to study and work toward a career; their understanding of skills needed to effectively work with co-workers and supervisors; their understanding of skills they need to succeed in job tasks; their knowledge of their specific career interests; their understanding of disability-related accommodations they may need at work; their ability to use computers, the Internet and/or other technologies; and their knowledge of their legal rights with regard to employment. These items were selected after review of the literature regarding the value of work-based learning and after communication with young people and adults with disabilities, service providers, and parents. Only modest positive changes were expected because many of the work-based experiences were of short duration and because not all work experiences addressed issues covered in the survey. For example, some work experiences did not involve the use of technology and, therefore, it was expected that participants in these placements would not report an increase in their “ability to use computers, the Internet and/or other technologies”.

In an open-ended format, participants were also asked what they gained most from their work-based experiences. The survey was sent via electronic mail to students with disabilities who had participated in a total of 83 work experiences. Fifty-five (66%) of the surveys were returned. Summarized below are the average responses of participants, in order from largest to smallest, when they were asked to rate levels of change, if any, as a result of a specific experience where 1 = much less, 2 = somewhat less, 3 = no change, 4 = somewhat more, and 5 = much more.

- Your motivation to study and work toward a career: 4.07
- Your understanding of skills you need to effectively work with co-workers and supervisors: 4.07
- Your understanding of skills you need to succeed in job tasks: 3.98
- Your knowledge of your specific career interests: 3.76
- Your understanding of disability-related accommodations you may need at work: 3.74
- Your ability to use computers, the Internet and/or other technologies: 3.66
- Your knowledge of your legal rights with regard to employment: 3.50

Respondents reported the greatest positive changes in their motivation to study and work toward a career and their understanding of skills needed to succeed. They also reported increases in knowledge of their specific career interests and accommodation needs. Lower average scores for changes in the ability to use technology and knowledge of legal rights are probably a result of the fact that many of the work-based experiences did not directly deal with these skill and knowledge areas. The survey also provided an opportunity for participants to report what they gained most from their work-based experiences. Because these experiences varied greatly, this data provides a better indication than the average ratings reported above of the impact of specific work-based learning experiences. The following representative sample of responses supports the value of work experiences for clarifying career goals, developing accommodation strategies, gaining work skills, and learning to work as a team.

- Mostly I learned how to work with all people from various backgrounds and beliefs. This included my residents, my co-workers, my supervisor, and other people on campus . . . I learned to listen better and to assert myself in confrontations in needed times.
- I think this was a great opportunity for me to actually work with computers and the programs I’m learning in a real job setting. I liked the fact that it was for a real employer, not just for a class or something similar. Over the past few months, by doing other various jobs, I’ve really narrowed down my interests and career plans. I really know what I want to do now, and now I’m working toward getting into the field.
- This was a great experience to work in a high profile government office [the White House] in which
everyone there was dedicated and excited about their job. I learned a lot about the economy that summer – as I had to summarize daily economic articles, and I got to learn more about public administration. Perhaps later on in life I would like to get involved in a government project or initiative.

- I learned a lot about management styles, what works and what doesn’t. It was a growing experience as I developed a better understanding of the job and being a responsible leader.

- I gained many things from this internship at DO-IT such as: working on a project and having a finished product; working with new tools such as PageMaker and a little PhotoShop; and meeting new people and Scholars was really great. I also learned what I could do to help with someone with a disability. I also became more informed about services that I can get through the Disability Services, and what one needs to do.

- I gained the experience in being in a working environment, and how to work as a team.

- I think the best thing I learned was about giving presentations to others. I was able to give one on one presentations to people who were new to computer technology and I also talked in front of audiences about the kinds of technology on the market and how people can learn to use them. In addition, I learned how to use my online resources for getting information about travel options, lodging, and other information.

- I learned about different companies that produce and sell adaptive technology. In addition, I created online documents that were eventually published on the network. However, I think the most important thing I learned was to increase my leadership skills.

- I think the most important thing I learned was how to manage multiple tasks at one time.

- This experience showed me how much I enjoy teaching; it also gave me a wonderful opportunity to learn skills related to teaching, and working in an environment that is commonly reserved for graduate students or those with higher degrees. It changed my idea of what I wanted to do for a career.

Caution should be exercised in generalizing the results of this survey because the sample was not random and the work experiences varied greatly in content and duration. Further research is needed to clarify what specific types of work-based learning experiences lead to the most positive outcomes for students with disabilities.

4. Conclusion

DO-IT CAREERS has been successful in giving students with disabilities opportunities to participate in and achieve considerable benefit from work-based experiences. They gained motivation to work toward a career, learned about careers and the workplace, gained job-related skills, learned to work with supervisors and co-workers, and developed accommodation strategies.

Educators and employers also gained knowledge and skills so that they can more fully include students with disabilities in work-based learning opportunities. Lessons learned suggest that, in order for school-to-work programs to be inclusive, stakeholders must collaborate in innovative ways to meet shared and individual goals. These stakeholders include students, educators, parents, mentors, employers, and community-based organizations. Increased efforts should be made to promote the knowledge of all stakeholders regarding the issues and strategies for fully including students with disabilities in career preparation programs. Teamwork facilitates success in situations where fragmented efforts cannot. Aspects of this model can be used by others to promote the success of people with disabilities in employment.

Contact information

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