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ABSTRACT

This manual presents six papers on the design of community-based employment programs for students with severe disabilities. The first paper is "Community-Based Vocational Preparation for Students with Severe Disabilities: Designing the Process" by Katherine J. Inge et al. This paper details a five-step process for designing such a program. The second paper is also by Katherine J. Inge et al. and is titled "Community-Based Vocational Instruction and the Labor Laws: A 1993 Update." It includes frequently asked questions about the Fair Labor Standards Act and case study examples to help interpret the guidelines. The third paper, by Katherine J. Inge and Stacy Dymond, is "Challenging Behaviors in the Work Place: Increasing One Student's Access to Community-Based Vocational Instruction Using a Changing Criterion Design." The fourth paper, "Supported Employment for School-Age Students with Severe Disabilities: Issues and Applications" by Stacy Dymond et al, uses a case study of one student in the Vocational Options Project to illustrate the movement from community-based vocational training to individual supported employment before exiting school. The fifth paper, "The Application of a Self-Management Procedure To Increase Work Productions: A Community-Based Case Study Example" by Katherine J. Inge et al., also uses a case study to demonstrate self-management procedures. The final paper is by Paul Wehman and is titled "A Selective Review of Supported Employment Literature: Progress Made and Challenges Ahead." A table entitled, "Number of Budgeted and Unfilled Positions by Occupation at Outside Providers of Purchased Services that State Directors Report Difficulty Obtaining" is appended. Most papers contain references. (DB)

VOCATIONAL OPTIONS PROJECT

Rehabilitation Research and Training Center on Supported Employment
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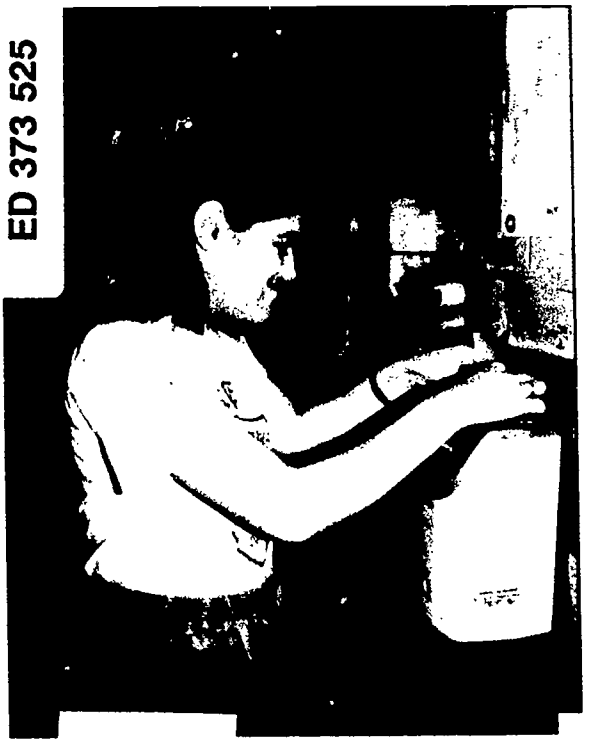

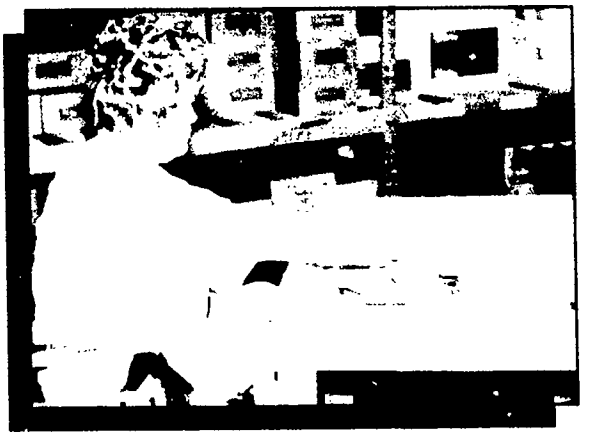

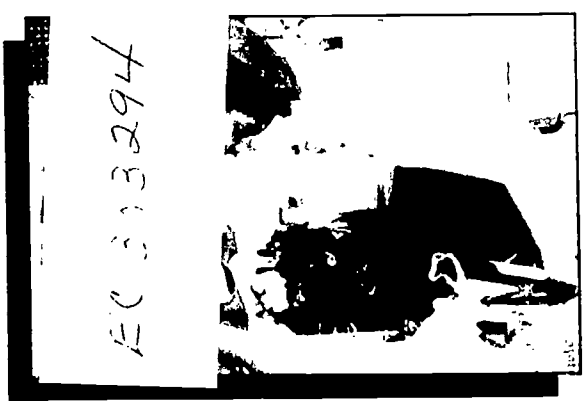

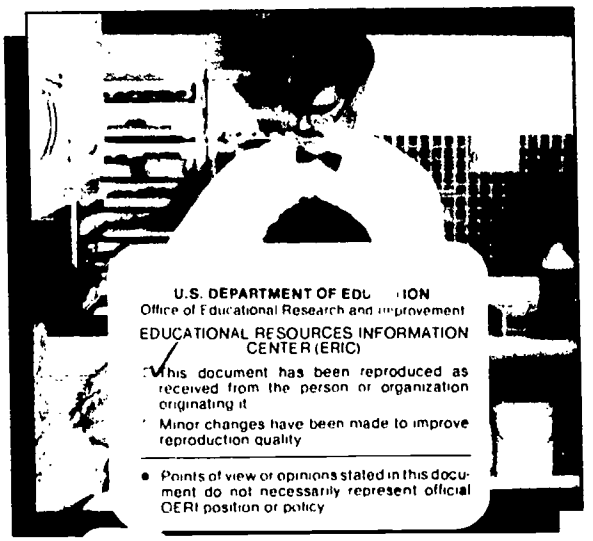

Designing Community-Based Vocational Programs for Students with Severe Disabilities

Edited by: Katherine J. Inge
Paul Wehman

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Vocational Options Project
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Foreword

Relatively few initiatives can sustain themselves in the human services for more than three to five years at a time. The energy level, interest, and enthusiasm associated with different innovations must draw energy from many people, ideally from many disciplines and perspectives, and must meet a legitimate unmet need. Transition from school to adulthood for young people with disabilities is perhaps one of the more enduring initiatives of the past decade. In the 1980's we have seen:

Transition in the 1980's
• growth of community-based training experiences
• re-emphasis by vocational rehabilitation counselors on planning transition with special educators
• more individual written rehabilitation plans which reflect transition objectives for youth with disabilities
• expanded awareness of the high (25-30%) drop-out rates of youth with disabilities
• published papers about transition, especially in the area of assessing post-secondary follow-up status
• a majority of states promoting interagency agreements between schools and other local human service agencies
• emergence of detailed individual transition plans for students in local educational agencies
• a change to reflect a specific call for coordinated transition planning for all youth with disabilities
• state system change grants for promoting transition by the U.S. Department of Education

Has progress been made? **Absolutely!** Have most of the obstacles and challenges of implementing meaningful transition been overcome? Absolutely not. There are consistently high unemployment rates ranging from 40-90% once youth with disabilities leave school. There is, unfortunately, an almost overwhelming list of issues, problems, and concerns requiring concentrated effort. What are these problems? What challenges lie ahead for us to make these

youth-to-adult transitions successful? Here is my laundry list which I offer for thought, consideration, and review:

1. We need to recognize that parents are not yet fully "on board" regarding transition. Parents have always been the driving force behind change for children with disabilities. Our efforts here need to be doubled and redoubled.

2. The reauthorized Rehabilitation Act should reflect tighter connection to transition planning for young people with disabilities. We must make certain that students exiting the schools who require rehabilitation services receive them with no break in service.

3. Some states have begun to prioritize adult services, supported employment, etc., for transition-age youth. More states need to do this. If we have failed or partially failed with older people with disabilities, let us not perpetuate this problem. Limited resources should be targeted to transition-age youth.

4. Recent legislation such as the Americans With Disabilities Act and the Technology Assistance Act of 1988 are critically important and should target young people.

The whole concept of transition is a dynamic and changing one. Transition is not static. As the name implies, it is a period of change and evolution. We live in a complex world that is complicated by the high number of societal problems, difficulties, and challenges which face everyone on a daily basis. When physical, emotional, intellectual, and/or a learning disability are added into the equation of progressing toward adult adjustment, it is not difficult to see the problems that many of these young people face.

In reality, those of us who work in the field of special education, rehabilitation, and psychology, must directly confront the fact that, in order to help people in the transition process, we must face the problems as a whole in society and particularly in our respective communities. Facing transitions by young people with disabilities cannot be done by the school systems alone. All forces within the community and family must work together. What the school can do is facilitate the coordination and design plans which will increase the likelihood of successful adult adjustment.

In the final analysis, we must not lose sight of why we send students with disabilities to school. These students participate in school for the purpose of learning how to work

independently, how to live in a community, and how to develop a quality of life which will insure happiness and satisfaction. We must strive to help young people with disabilities become interdependent. For example, students who are significantly challenged by their disabilities will need to know how to work with other members of the community in solving the daily problems and barriers that they face.

Professionals, parents, family members, and advocates have the responsibility to make the lives of thousands and thousands of young people with disabilities different and better. We must learn to individualize our professional responses to specific needs; we must learn to individualize program plans; we must not become bogged down in bureaucratic processing; and we must focus planning directly on measurable outcomes such as jobs before students leave school. Finally, we must identify curriculum which directly reflects what students need to successfully adjust in society. When we pull together as professionals and family members, first at a local level and then at a state level, we will be able to put all of the positive forces to work on behalf of young people with disabilities.

Paul Wehman, Ph.D.
Director, RRTC/VCU

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Community-Based Vocational Preparation for Students with Severe Disabilities: Designing the Process

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Christopher Johnston
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Community-Based Vocational Preparation for Students with Severe Disabilities: Designing the Process

The most recent reauthorization of The Education for Handicapped Children Act occurred during the 101st Congress. P.L. 101-476 became law in September of 1990 and is now known as The Individuals with Disabilities Education Act (IDEA). P.L. 101-476 defined "transition services" as follows:

> *"A coordinated set of activities for a student, designed within an outcome oriented process, which promotes movement from school to post school activities, includes postsecondary education, vocational training, integrated employment, (including supported employment), continuing adult education, adult services, independent living, or community participation. The coordinated set of activities shall be based upon the individual student's needs taking into account the student's preferences and interests and shall include instruction, community experiences, development of employment and other postschool adult living objectives, and when appropriate acquisition of daily living skills and functional vocational evaluation" (PL 101, 20 U.S.C. §1401 [a][19]).*

Prior to this legislation, transition had been described within the special education process, but it had never been defined in terms of who should participate, when they should participate, and who would provide the services. P.L. 101-476 mandated transition services for students with severe disabilities to include "**community experiences**, the development of employment, and other post-school adult living objectives." In addition, a transition plan must be developed for a student no later than age 16 and, in some cases, at age 14 or younger. Interagency responsibilities and linkages also must be included before the student graduates.

IDEA resulted from the increased focus on efforts to facilitate the successful movement of youth with disabilities from school to adult settings. The IDEA requires local education agencies to include transition planning and implementation in the Individualized Education Program (IEP) process for all students with disabilities. Thus, for the first time, legislation spells out a requirement for providing "transition services" to support youth in their movement into post school settings.

Another important piece of legislation that impacts the transition of students from school to work is The Rehabilitation Act Amendments of 1992 (P.L 102-569). The definition of transition services that is included in P.L. 102-569 **duplicates** the one found in the Individuals with Disabilities Education Act. The Amendments recognize that many students with the most severe disabilities will exit school systems requiring rehabilitation services. Consequently, the new regulations mandate a state plan requiring that the state rehabilitation agency address the development of policies that will assure coordination between the rehabilitation agencies and state education agencies. The outcome is to assure that students exiting the schools who require rehabilitation services receive those services with no break in service (Button, 1992; Inge, 1993; Inge & Brooke, 1993).

It is also important for teachers to know that the new Amendments are guided by the presumption of ability. **A person with a disability, regardless of the severity of the disability, can achieve employment and other rehabilitation goals, if the appropriate services and supports are made available.** Therefore, the primary responsibilities of the vocational rehabilitation system are to:

- Assist the individual with a disability to make informed choices about potential employment outcomes that result in integration and inclusion in the community.
- Develop an individualized rehabilitation program with the full participation of the person with a disability.
- Match the needs and interests reflected in the individualized programs with the appropriate services and supports including rehabilitation technology, supported employment, and others.

- Proactively foster cooperative working relationships with other agencies and programs, including local education authorities, to unify the service system.
- Emphasize the quality of services and the accountability that service representatives have to honor the dignity, participation, and growth of persons with disabilities as their employment interests develop over time. **(Revell, 1993)**

The transition provisions added to the Act do not shift the burden for transition planning from education to rehabilitation. Instead, they promote coordination and collaboration between the two systems so there will be no gap in service for eligible students. The state plan requirements for transition under P.L. 102-569 include the following:

New State Plan Requirements for Transition

GOALS AND PUBLIC EDUCATION. **Each state plan must:**

...contain plans, policies, and procedures to be followed (including entering into a formal interagency cooperative agreement...with education officials responsible for the provision of a free appropriate public education to students who are individuals with disabilities) that are designed to:

A.) facilitate the development and accomplishment of -

(i) long-term rehabilitation goals;
(ii) intermediate rehabilitation objectives; and
(iii) goals and objectives related to enabling a student to live independently before the student leaves a school setting, to the extent the goals and objectives described in clause (i) through (iii) are included in an individualized education program of the student, including the specification of plans for coordination with the educational agencies in the provision of transition services;

B.) facilitate the transition from the provision of a free appropriate public education under the responsibility of an educational agency to the provision of vocational rehabilitation services under the responsibility of the designated State unit, including the specification of plans for coordination with educational agencies in the provision of transition services authorized under section 103(a)(14) to an individual, consistent with the individualized written rehabilitation program of the individual; and

C.) provide that such plans, policies, and procedures will address -

(i) provisions for determining State lead agencies and qualified personnel responsible for transition services;
(ii) Procedures for outreach to and identification of youth in need of such services; and
(iii) a timeframe for evaluation and follow-up of youth who have received such services (Sec. 101(a)(24)).

Eligibility

Prior to the Rehabilitation Act Amendments of 1992, an individual had to have evaluations to determine his/her "rehab. potential" and the "feasibility" for "employability." Often these evaluations concluded that persons with the most severe disabilities were not eligible for services. However, since advances in technology and supported employment, disability can no longer be equated with an inability to work (Button, 1992; Inge & Brooke, 1993). In assuming that people with disabilities can work, several critical changes will occur.

Eligibility: Accessing the Rehabilitation System
• The notion of feasibility is removed.
• The rehabilitation counselor must demonstrate that **no** employment outcome is possible in order to determine a person ineligible.
• The burden of proof for accessing the system shifts from the individual to the rehabilitation system.

A two part process essentially determines a person's eligibility for rehabilitation services. First, does the person have a disability? Second, does he/she require assistance from the vocational rehabilitation system to achieve an employment outcome? **Presumption of ability** changes the "old way" of an "evaluation of rehabilitation potential", to an assessment of eligibility and rehabilitation needs.

Eligibility determinations must now focus **first** on the use of **existing data,** particularly on information provided by the individual with a disability, his/her family, or advocates. Other sources may include education agencies, social security agencies, the individual's personal physician, previous or current employer(s), community organizations such as UCP affiliates, and any organization or person referring the individual. The use of existing data for determining eligibility for rehabilitation services has major implications for school systems. **If students**

participate in school programs that provide community-based vocational training and paid work experiences prior to graduation, data will be available to establish eligibility for rehabilitation services post graduation. Students will have developed resumes and references from previous and/or current employers to demonstrate the feasibility of employment outcomes. In conclusion, teachers should get to know their vocational rehabilitation counselor(s) and make sure that this person is a member of their students' transition teams. The remainder of this chapter outlines the steps for setting up a community-based vocational program.

Designing A Community-Based Vocational Program

Vocational training must reflect a community's local economy in order to prepare students with severe disabilities for paid jobs by the time of graduation (Bates, 1989; Moon, Inge, Wehman, Brooke, & Barcus, 1990a; Moon & Inge, 1993; Renzaglia & Hutchins, 1988). Each school system's vocational curriculum will be different based on the community in which the students reside. Development of the curriculum will entail continual assessment of the local labor market to determine the major employers in the community, the types of employment most commonly available, and the type of employment that has been obtained by individuals with disabilities (Moon et al., 1990a).

School systems are cautioned to carefully analyze the types of training experiences selected. For instance, it may be easy to develop a horticultural program on the school grounds or obtain collating work from the school office for vocational training purposes. However, if these training experiences do not reflect future job possibilities, the students may have difficulty with their transition from school to work. In addition, teachers should limit simulated work in the classroom setting, since this does not provide the needed coworker/social integration training

that is critical for job success. Work experiences on the school grounds should be for younger students under 14 when community-based training is not an option (Moon, Kiernan, & Halloran, 1990; Renzaglia & Hutchins, 1988). Finally, as students near graduation, time in real job settings should increase until the majority of the school day is spent in the community (Brown et al., 1991; Sailor et al., 1986; Wehman, Moon, Everson, Wood, Barcus, 1988; Wehman, 1993).

Establishing Community-Based Training Sites

The steps in developing community-based training sites include: 1.) conducting a job market analysis; 2.) identifying businesses with the targeted jobs and contacting the personnel director or employer; 3.) selecting and analyzing appropriate jobs for community-based training; 4.) scheduling community-based vocational instruction; and 5.) designing individualized instructional programs. Teachers may want to first contact adult service agencies within their communities to determine the location of supported employment placements. These sites may not be appropriate for community-based vocational training experiences, since the presence of unpaid students could confuse the employers and result in inappropriate work expectations and labor law violations (Moon & Inge, 1993). A detailed listing of the steps and activities involved in developing community-based training sites is provided in Table 1 which is located in the appendix of this chapter.

Step 1: Conduct a Job Market Analysis

Initially, a school system may want to identify a task force of teachers to develop procedures for completing a community job market analysis (Pumpian, Shepard, & West, 1988). In some instances, the task force may appoint the transition coordinator to complete business contacts, or a special education teacher at the secondary level may take the lead. In any case, a plan of action should be developed to prevent duplication of effort. Figures 1 and 2 are

sample forms in the appendix of this chapter that can be used to keep track of which employers have been contacted or interviewed when developing a community-based vocational training program.

Once school personnel have been identified to complete the market analysis, they may begin by surveying their local Chamber of Commerce and/or Economic Development Office, looking in the telephone directory, reading the newspaper want ads, interviewing potential employers, completing follow-up contacts with school graduates, and contacting adult service agencies and supported employment programs to determine job placements for individuals with severe disabilities. A list of contacts might include the following:

Potential List of Business Contacts

- **State Economic Development Office**
- **State Employment Commission**
- **Chamber of Commerce**
- **Trade Associations**
- **Better Business Bureau**
- **City and County Employment Offices**
- **Dept. of Labor**
- **Telephone Book/Newspaper Classifieds**
- **Business Newsletters**
- **Voc Rehab Agencies**
- **Supported Employment Providers**
- **Civic Clubs and Organizations**
- **Friends and Associates**

Once a list of businesses has been generated, the school representative(s) should initiate contacts with a sample of employers to identify jobs that would be available to students upon graduation. Renzaglia and Hutchins (1988) suggest generating a list of local businesses and categorizing them by job types (e.g. clerical, food service, janitorial, industrial, etc.). After a general job market analysis has been completed, teachers are ready to contact specific employers regarding the use of their businesses for vocational training.

Step 2: Identify businesses with the targeted jobs and contact the personnel director/employer.

Once the local economy has been assessed to determine the possible job types for students with severe disabilities, the teacher(s) must determine where instruction will occur. Each student should have the opportunity to experience a variety of jobs in a number of different settings to assist the student in developing a work history, determine his or her job preferences, identify future training needs, and determine skill characteristics for future job matching. The task force that completed the community job market analysis should also identify the individual(s) who will approach employers regarding use of their businesses for community-based training sites.

Initial information to identify potential jobs within a business can be obtained from the personnel director or employer. Often this individual will be able to provide written job descriptions that can be useful in identifying job types, however, observation of the actual work sites usually is more beneficial for job identification (Moon et al., 1990a). When selecting nonpaid work experiences, the teacher must be careful not to displace a worker within the job site in order to meet labor law requirements (Inge, Simon, Halloran, & Moon, 1993). Therefore the tasks targeted should provide enough space for the student and teacher to work alongside the regular employee.

Another issue to consider is the number of tasks that should be identified for instruction. There is some debate regarding whether a student should be given experiences with a number of tasks or limited to one or two choices (Sowers & Powers, 1991). Obviously this decision should be made based on the characteristics of specific students being placed on the training site, however, in general it seems appropriate to limit the number of tasks for students with severe disabilities. Sowers & Powers (1991) suggest that providing instruction on a number of

different tasks or moving students from task to task before skill learning may not allow them to experience a sense of accomplishment. Certainly, students with more severe disabilities will be performing jobs with a minimal number of task change requirements when they become employed (Moon et al., 1990a) Therefore, it seems most reasonable to provide them with training experiences that are similar in task requirements to future expectations.

Contact the Personnel Director/employer: Contacts with the personnel director or a company manager can be made by phone or letter to set up an appointment to discuss the school's program in detail. Additional methods for initial contacts may include visits to local business association meetings, employer breakfasts, visits to regional business offices, etc. (Pumpian et al., 1988). "Dropping in" on employers without an appointment is not recommended.

Contacts by letter should always be followed with telephone communication. The content of the letter or phone conversation could include a brief description of the school program, identification of potential job types available in the business, and possible times for an appointment to visit. During the initial site visit, the teacher can discuss the responsibilities of the school trainer, student, and employer/coworkers. In addition, the teacher must explain to the employer the labor law requirements that need to be met regarding unpaid work experiences. Labor law regulations for nonpaid work experiences are described in detail in Chapter 2 of this monograph.

The contact person also should be prepared to discuss insurance coverage by the school system and liability issues, as well as the development of a training agreement with the business. The students participating in the Vocational Options Project were covered by the

school's liability insurance policy. Prior to the implementation of training, the school lawyer reviewed the insurance policy and ensured that students were covered if an accident occurred on a job site (considered an extension of the school building). In addition, each parent agreed to take out a school sponsored policy at a nominal charge that would cover medical expenses in the case of an emergency.

Step 3: Select and Analyze Appropriate Jobs for Community-Based Training

Often, the initial contact made with a business is with an employer or management level individual who will not be able to specifically assist the teacher in identifying jobs for training. He/she will be referred to a supervisor who in turn will be the actual contact person for community programming. For instance, one job site identified by the Vocational Options project was a hotel. Initial meetings were conducted with the hotel manager, however actual identification of job tasks occurred when the teacher met with the housekeeping supervisor.

Activities during this phase of setting up a community-based training site include observing the coworkers performing the job duties available, selecting tasks that are appropriate to the students who will be receiving training, and actually working the selected job duties. A tentative schedule of the activities that the student(s) will be performing should be developed, as well as task analyses for skills targeted. Both of these may need modification once specific students are assigned to the work site. Finally, the teacher should negotiate times for the student(s) to be on site and a start date. The following information outlines the steps for designing a job duty schedule and writing task analyses.

Job Duty Schedule: A job duty schedule outlines the specific work tasks that will be performed by the students, as well as the time that they will be performed. The following is a sample job schedule for a community-based training site.

Sample Community-Based Training Schedule

Community-Based Training Site: Discount Clothing Store - Stock Room

Area Supervisor: Mrs. Mary Miller

Teacher Completing Form: Stacy D.

[X] Daily
(Training tasks remain the same from day to day)

[] Varies day to day
(If checked here, complete a separate form for each day's schedule)

If above box is checked, indicate day for which this form is completed:

[] Mon [] Tues [] Wed [] Thurs [] Fri

Vocational Training Tasks	Approximate Time
1:00 p.m. - 1:15 p.m.	Punch in, set up work area
1:15 p.m. - 1:30 p.m.	Open clothing boxes
1:30 p.m. - 2:00 p.m.	Put clothes on hangers
2:00 p.m. - 2:15 p.m.	Break in employee lounge
2:15 p.m. - 3:00 p.m.	Unpack boxes, fold items, put on shelves in stock room
3:00 p.m. - 3:30 p.m.	Punch out - Go to McDonald's - Return to School

Comments: Students should wear dark blue pants and a white shirt for this training site. Report to Mrs. Miller upon arrival. If she is not in the stock room, call ext. 75 and report to security. Students will work with Bill and Laura (coworkers) on all tasks.

SIGNATURE/TITLE: _____ DATE: _____

In addition to the job/duty schedule, the teacher/trainer needs to determine if there are any special requirements that the employer has for the student(s) on the job site. Answers to the following sample questions should be determined (Moon & Inge, 1993).

- Does the employer/supervisor want the student(s) to wear a uniform or specific clothing (e.g. white shirt with black pants)?
- What entrance should be used?
- Is it important to report to the supervisor or a coworker upon arrival?
- Do employees have assigned lockers and can one be available to the student(s)?
- Is there an identified break area and employee bathroom?
- Are there specific break times for employees?
- Are there any company benefits that may be available to the students (e.g. free lunch or soda)?
- Are there any restricted (hazardous) areas or activities that can be identified?
- Is there a company policy or procedure for reporting accidents on the job?

All of this information should be recorded and placed in a file that can be accessed by all school personnel. This would be particularly important during teacher absences when another school employee must supervise the site.

Task Analysis: Whatever activities are included in the job duty schedule, the teacher needs to complete a thorough task analysis of each activity prior to bringing the student(s) to the work site. He/she should observe the coworkers performing the task, identify each step that is completed, and then perform the job modifying the steps as necessary. Finally, the teacher should check with the supervisor to ensure that the task is being performed correctly.

Each step of a task analysis should consist of one observable behavior that can be taught individually (Barcus, Brooke, Inge, Moon, Goodall, 1987; Moon et al., 1990a; Moon & Inge, 1993). It is also helpful to word steps in the second person so they may be used as verbal prompts during instruction (e.g., "Wipe the lid of the toilet"), as well as making references to things that are observable (e.g., "Push the green button"). A good task analysis assists the teacher in organizing instruction, providing consistent training, and evaluating the student's performance. The following is a sample task analysis for cleaning a toilet.

Task Analysis: "Clean the Toilet"

1. Put toilet brush in bucket.
2. Pick up cleanser.
3. Push bucket to first toilet.
4. Squirt cleanser in toilet.
5. Set down cleanser.
6. Pick up brush.
7. Tap brush 2x's on side of bucket.
8. Brush top of toilet.
9. Brush sides of toilet.
10. Brush front of toilet.
11. Dip brush in bucket.
12. Tap brush 2x's on side of bucket.
13. Brush seat of toilet.
14. Raise seat of toilet.
15. Brush inside seat of toilet.
16. Dip brush in bucket.
17. Tap brush 2x's on side of bucket.
18. Dip brush inside toilet.
19. Brush inside of toilet 4x's.
20. Tap brush 2x's on seat.
21. Put toilet brush in bucket.
22. Pick up the cleanser.
23. Push bucket to next toilet.

There are several tips for developing and individualizing task analyses for vocational instruction in order to facilitate a student's skill acquisition and quality performance. First, the teacher should analyze a job to determine if **discrimination** is part of the task and, if so, how can this be "built" into the task analysis. For instance, many individuals with severe disabilities may be unable to distinguish clean vs. dirty. In the above task analysis, the teacher could analyze cleaning the toilet and determine a pattern that must be followed to wipe the top, sides, seat, and inside of the toilet which would always result in a clean surface. These steps would then be broken down into smaller steps for instruction. For a student with discrimination difficulties, a sample step in the above task analysis may be further analyzed in the following fashion. The information placed in parentheses serves as a cue to the trainer for consistency of prompting but is not used as a verbal cue to the student.

Example: Step 8 of Cleaning the Toilet

8. **Brush top of toilet**. (Student wipes top one time, always working left to right.)

   Place brush at back corner.
   Move brush across top of toilet.
   Place brush at front corner.
   Move brush across top.

Another area that the teacher has addressed in the task analysis for cleaning the toilet is chaining of activities or work tasks. For instance, the last three steps of the task are the first three steps of cleaning the next toilet. In this manner, the teacher can write all of a student's task analyses to interconnect in order to sequence the work activities. This will help him/her learn to move from one task to another and ultimately be independent on the job site.

Efficiency should also be considered when writing a task analysis. For instance, students with severe disabilities may avoid reaching across the midline of their body, using two hands together, or using one hand consistently. The teacher should observe the student and determine the most efficient way to complete the task based on his or her physical abilities. For instance, if there are no physical limitations that prohibit using both hands to complete a task, the task analysis should require the student to do so (e.g., picking up an armful of laundry with both arms vs. using one hand only). Systematic instruction then can be implemented to teach the student the physical requirements of the activity.

The use of **natural cues or material prompts** could also be built into the task analysis to facilitate skill acquisition. For instance, the student could be taught to use work supplies as a cue for task completion or assistance in moving from one step or work duty to another. An example might be putting the "pink" cleanser in all toilets that need to be cleaned as the first step in the task analysis. The presence of cleanser in the toilet would provide a cue that a bathroom stall has not been cleaned.

Completing a job to **production standards/speed** often will be an issue when teaching students with severe disabilities. Initial consideration when designing a task analysis can assist in eliminating this problem. For instance, students may continue to perform a step in a task even though it is not necessary (e.g., cleaning the inside of a toilet, scrubbing a pot, etc.) Observation of the student may reveal that he/she is perseverating on steps in the task. In the above task analysis of cleaning the toilet for instance, the teacher could write the task analysis to provide structure to the steps that are being repeated (e.g. tap the brush 2x's on side of bucket). Even though most students with severe disabilities will not understand the concept of a number of movements, repetition through systematic instruction can result in skill performance.

Step 4: Schedule Community-Based Instruction

Creative use of school personnel to schedule and transport students for community-based instruction will clearly be the greatest challenge for administrators and teachers of students with severe disabilities (Hutchins & Talarico, 1985). A number of model demonstration programs across the country have identified solutions for scheduling and transportation issues (Baumgart & Van Walleghem, 1986; Hutchins & Talarico, 1985; Nietupski, Hamre-Nietupski, Welch, & Anderson, 1983; Wehman, et al., 1988). Staffing solutions have included team teaching; use of volunteers, paraprofessionals, peer tutors, graduate students, and student teachers; heterogeneous grouping of students; staggered student training schedules; and utilization of support personnel providing integrated therapy services. Transportation issues have been resolved using volunteers' or parents' cars with mileage reimbursement, coordination of training schedules with regular school bus schedules, use of public transportation, use of school district vehicles, and walking to sites within short distances. Each school system must select procedures that are effective for their specific needs. A rule of thumb to follow for scheduling purposes

is no more than 4 students per training site per instructor, however fewer would be more effective for skill development (Wehman et al., 1988).

Scheduling should also focus on providing a variety of experiences across the students school year. Each transition team should decide what experiences are appropriate to a student's long-term objectives and make recommendations concerning training in the community. Keep in mind that the labor law regulations require that a student's program for non-paid work experiences should not exceed the following in a given school year:

- *Vocational exploration:* *5 hours per job experienced*
- *Vocational assessment:* *90 hours per job experienced*
- *Vocational training:* *120 hours per job experienced*

The Vocational Options Project used three grant funded staff to provide community-based vocational experiences to students with severe disabilities. After jobs were identified that were reflective of the local labor market, students were rotated through real work sites providing them an opportunity to sample jobs across different trainers, as well as work at different times of the day. Tables 2 and 3 in the appendix of this chapter show the training schedule and job duties for one group of eight students who participated in community-based instruction.

Step 5: Design Systematic Instructional Procedures

Once the sites have been identified and a schedule for student placement determined, the teacher must design instructional programs outlining how each student will be taught job skills and other related vocational activities. Included in the design should be a.) specific training objectives, b.) individualized task analyses, c.) data collection guidelines, d.) instructional strategies, e.) reinforcement procedures, and f.) program modifications. The following sections outline each of these components in detail.

a.) Write Vocational Training Objectives

Training objectives are written to include the observable behaviors that will be taught, the conditions under which they will occur, and the criteria that will be used to evaluate the student's performance (Snell & Grigg, 1986; Wehman et al., 1988). Each skill that is being taught on a job site should have a program objective included in the student's IEP or Individualized Transition Plan (I.T.P.). The following is an example of one student's objective for folding a bath towel.

Sample Behavioral Objective

Component	Example
Condition under which behavior will occur:	Given a laundry basket of bath towels and the cue, "fold the towels",
Observable behavior:	Janet will fold the towels
Criteria for evaluation of student performance:	with 100% accuracy according to the steps in the task analysis for three consecutive probe trials.

b.) Individualized task analyses

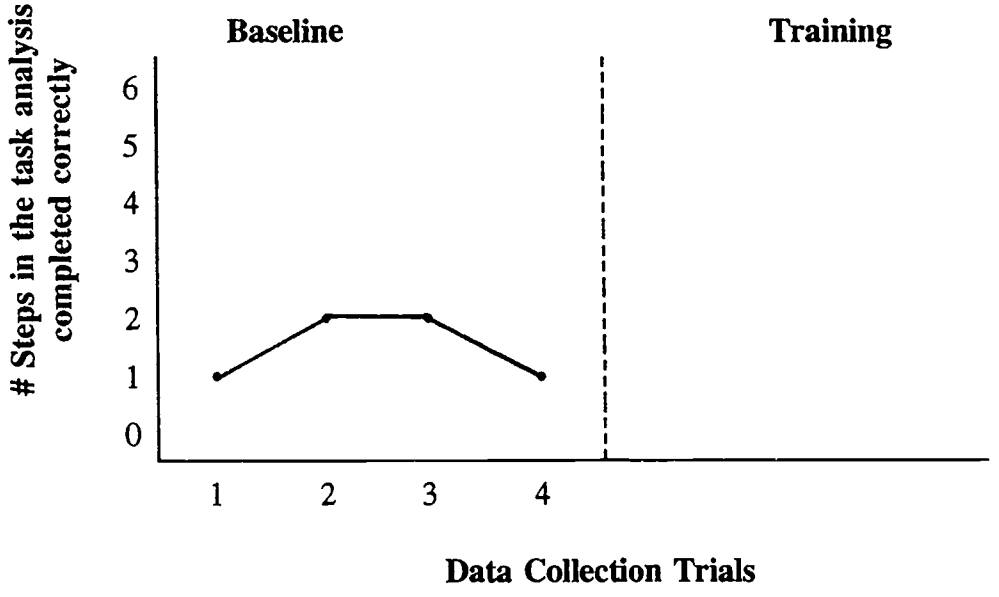
Although the teacher developed tasks analyses when he/she negotiated with the employer to set up the training site, each student will need them to be custom designed for his/her training needs. This will occur during the first several days that the teacher and student(s) are on a job site. For instance, the teacher may determine that a task needs to be broken down into more detailed steps or designed to eliminate a particular discrimination that the student can not make. The process of altering or modifying a task analysis can be facilitated by the use of data collection. Data can point to a step(s) in the task that the student is not learning and indicate that a change needs to be made in this area.

c.) Collect Baseline and Probe Data

Data collection is an important part of any instructional program, since it is necessary for monitoring a student's skill acquisition. However, it is a critical portion of community-based

instruction, since the teacher/trainer must be able to demonstrate that a student's vocational placement is for training purposes in order to meet the Department of Labor regulations for non-paid work experiences. In other words, data can indicate when the student is able to perform a work task to the standards/requirements of the work site. At this point in training, the student must receive payment for work completed or he/she needs to be moved to another site for additional work experiences (Inge et al., 1993).

The teacher must select a data collection procedure for each skill receiving instruction during community-based training to include job duties, as well as work-related activities. (Falvey, 1989; Moon & Inge, 1993; Wehman et al., 1988). Initial data collection is referred to as a baseline and should be conducted at least once prior to the initiation of any skill acquisition program. If possible, the teacher should collect baseline data for several days until a stable rate of student performance is established. The following graph shows how the trainer collected data for several days at a training site in order to establish a baseline for sorting coathangers.



Sample baseline data demonstrating stability of student performance

Once training begins, data collection is referred to as a probe and should be collected at least one time a week prior to the beginning of a training session. The critical component of both baseline and probe assessment is that the student is allowed to perform the task **independently without providing feedback, reinforcement, or prompting** (Moon & Inge, 1993; Moon et al., 1990a). Typically, a skill is considered learned when the student performs the task correctly for three or four consecutive probe trials without any assistance from the trainer (Wehman et al., 1988).

There are two strategies that can be used for baseline and probe assessment to include single and multiple opportunity probe procedures (Barcus et al., 1987; Moon et al., 1990a). Use of a multiple opportunity probe requires that the student be tested on his or her performance for every step in the task analysis. A single opportunity probe requires that the teacher discontinue the assessment as soon as the student makes an error. The following table provides step-by step guidelines for each type of data collection procedure.

Guidelines for Collecting Baseline or Probe Data

Multiple Opportunity

1. Have the student move to the appropriate work area unless movement is the first step of the task analysis.
2. Stand beside or behind the student so that data collection does not interrupt the work flow.
3. Provide the work cue (i.e. "Sort the coathangers"; presence of the work materials; etc.).
4. Do not provide verbal instructions, prompts, or reinforcement during data collection.
5. Wait a specified latency period (i.e. 3 seconds) for the student to initiate a response.
6. Record a (+) if the student completes the step correctly.
7. If a response is incorrect or the student does not initiate the step within 3 seconds, complete the step yourself (if necessary for task completion) or position the student to perform the next step in the task analysis. (Do not take the student's hands and perform the step with him/her. This would be considered a physical prompt.) Record a (-) for the step in the task analysis.
8. Repeat items #5, #6, and #7 as necessary in order to test all steps in the task analysis from first to last.

Single Opportunity

1. Have the student move to the appropriate work area unless movement is the first step of the task analysis.
2. Stand beside or behind the student so that data collection does not interrupt the work flow.
3. Tell the student that he or she is going to complete the job without assistance to see how much he or she can do independently.
4. Provide the work cue (i.e. "Sort the coathangers"; presence of the work materials; etc.).
5. Do not provide verbal instructions, prompts, or reinforcement during data collection.
6. Wait a specified latency period (i.e. 3 seconds) for the student to initiate a response.
7. Record a (+) for correct performance. Allow the student to continue working as long as correct responses are being made.
8. As soon as the student makes an error or fails to respond within the latency period, discontinue the probe and score a (-) for all remaining steps in the task analysis.
9. Begin instruction immediately on the step that the student made his/her first error.

Adapted from: Moon, M.S., Inge, K.J., Wehman, P., Brooke, V., & Barcus, M. (1990). Helping persons with severe mental retardation get and keep employment: Supported employment issues and strategies. Baltimore: Paul H. Brookes Publishing Company.

There are several advantages to using the single opportunity strategy during community-based instruction (Moon et al., 1990a). First, data collection should not be time consuming and interrupt the natural flow of the work place. For instance, use of a multiple opportunity data collection procedure could limit the amount of training time available on the site. Since use of the multiple opportunity probe requires that all steps in the task be assessed, a task that takes a substantial amount of time to complete such as operating a dishmachine may be better assessed by a single opportunity probe. Discontinuing a probe as soon as the student makes a mistake allows instruction to begin immediately on that specific step of the task analysis. The major advantage to using the multiple opportunity strategy, however, is that the trainer is able to determine the exact steps of the task that the student has difficulty performing without

assistance, prompting, or reinforcement. Teachers should assess the work environment and the length of the task to determine the most appropriate strategy for data collection.

d.) Select an Instructional Strategy

Least Prompts: The majority of the literature on teaching vocational tasks to individuals with severe disabilities focuses on the use of least prompts as the teaching strategy of choice (Barcus et al., 1987; Cuvo, Leaf, & Borakove, 1978; Test, Grossi, & Keul, 1988). This strategy is also referred to as a response prompt hierarchy, since the trainer progresses from the least amount of assistance (usually a verbal prompt) to the most intrusive (usually a physical prompt) until one prompt stimulates correct responding.

Use of a least prompt strategy can be very effective for teaching skills on community job sites. Teachers are encouraged to consider various types of prompts to use in addition to the traditional verbal, model, physical sequence. For instance, as a student becomes more proficient on a site, try using an indirect verbal prompt in the sequence such as, "what do you do next," before using the verbal prompt specific to the step in the task analysis. This may be effective also for training students who have long been dependent on teachers for verbal instruction. In addition, gestures can be used instead of a full model prompt or partial physical assistance such as touching the student's arm.

Regardless of the types of prompts selected, the teacher should establish a latency period or time that he or she will wait for the student to respond before providing the next level of assistance. Usually a student should be given approximately 3 or 5 seconds to respond independently. Students with physical disabilities, however, may require longer latency periods

based on their movement limitations, and this should be determined on an individual basis (Inge, 1992; Sowers & Powers, 1991). Finally, the teacher is cautioned to deliver each prompt only once before moving to the next more intrusive prompt. Figure 3 provides a least prompt training program that was used for a student in the Vocational Options Project and can be found in the appendix of this chapter. The following is a list of steps for using a least prompt strategy.

Guidelines for Using a Least Prompt Hierarchy
(Barcus et al., 1987; Moon et al., 1990a)

1. Have the student move to the appropriate work area unless movement is part of the task analysis (TA).
2. Stand behind or beside the individual so that you can quickly provide prompts when necessary.
3. Provide the cue to begin the task. (Ex. "Clean the mirror," "Sort the coathangers, etc.)
4. Wait 3 seconds for self-initiation for step 1 of the TA.
5. If the student completes the step independently, provide reinforcement and proceed to step 2 of the TA. Score + on the data sheet.
6. If the student is incorrect or does not respond within 3 seconds, provide a verbal prompt specific to step 1 of the TA. ((Example: "Pick up the windex.")
7. If the student completes the step with a verbal prompt, provide reinforcement and move to step 2. Record V (for verbal) on the data sheet.
8. If the student is incorrect or does not respond within 3 seconds, model the response (Example: Teacher picks up the windex).
9. If the student completes the step with a model prompt, provide reinforcement and move to step 2. Record M (for model) on the data sheet.
10. If the student is incorrect or does not respond within 3 seconds, physically guide him/her through the response (Example: Teacher guides the student's hand to pick up the windex.) Record P (for physical) on the data sheet.
11. Begin instruction on step 2 of the TA.
12. Repeat this procedure for each step in the TA until the task is completed. Always **interrupt an error** with the next prompt in the least prompt system.

Time Delay: The use of time delay on vocational training sites is another viable option for teachers of students with severe disabilities (Inge, Moon, & Parent, 1993; Moon et al., 1990a). There are several critical components to a time delay procedure (Gast, Ault, Wolery, Doyle, & Bellanger, 1988; Snell & Gast, 1981). First, the teacher must select a prompt that will consistently assist the student to perform the task correctly. Initially, the prompt is given simultaneously with the request to perform the job duty. Gradually, increasing amounts of time (usually seconds) are waited between giving the request to perform the task and providing the prompt to complete the skill correctly. The number of trials at each delay level and the length of the delay should be determined prior to initiation of the program. By pairing the prompt with the request to perform a work task, the student is not allowed to make errors initially. The delay procedure allows the teacher to gradually fade assistance until the student performs without prompting. For example, a set number of trials are determined for 0 second delay, the next set at 2 seconds, the next at 4 seconds, etc. until the student performs without assistance.

Unlike the system of least prompts, time delay requires that the teacher select one prompt for use during the instructional program. Therefore, the procedure would be particularly useful if a student has consistently demonstrated a preference for one type of prompt. For example, if a student has shown that he or she always responds to a model prompt without making errors, the teacher can select it to place on delay (Moon et al., 1990a).

If an error occurs during time delay, the teacher should implement an error correction procedure. Typically an error may occur once increasing amounts of time are waited before the prompt is provided. Usually error correction consists of immediately interrupting the student's

mistake and providing the prompt. If the student makes 3 or more errors in a row, the teacher may consider reverting to a number of trials at 0 seconds before again delaying the prompt. Monitoring of the training data is essential to ensure that the student is not constantly making errors during the procedure. If this is the case, the teacher should consider selecting another prompt in order to provide an errorless learning experience.

The use of backward chaining and time delay has been used on a job site to demonstrate skill acquisition for two young women with severe disabilities (Inge et al., 1993; Moon et al., 1990a). The students were prompted on every step in the task analysis using a 0 second delay until the last step in the chain was reached. This step was then instructed using time delay until skill competence was shown on that step. The trainer then proceeded backwards in the chain until the entire task analysis was learned. Figure 4 provides an example of a time delay program used on a community-based training site and can be found in the appendix of this chapter.

e.) Identify Reinforcers and Determine Schedule of Delivery

Selection of reinforcers as well as the systematic delivery of reinforcement is critical for student success on community-based vocational sites. The most effective reinforcers are those that arise as a natural consequence to a given task or situation within the work environment (Wilcox & Bellamy, 1982). Therefore, the teacher should begin by attempting to identify items that are available in a specific community-based setting. For example, there may be a vending machine located within the employee break room which can be used to reinforce the student at the end of a training period or an employee cafeteria where he or she could get a snack.

However, it should be remembered that not all individuals will be reinforced by the same items and that even the most preferred reinforcer if used too frequently will lose its effectiveness (Falvey, 1989). Only after failing to identify a natural reinforcer, should the teacher select more artificial items (Moon et al., 1990a). Teachers are also cautioned to select only age appropriate materials for use on community-sites. The following information may be helpful in identifying potential reinforcers for students (Barcus, et al., 1987; Falvey, 1989; Moon et al., 1990a).

1. Survey individuals familiar with the student to determine likes and dislikes. Include leisure activities, tangible items, types of verbal reinforcement, etc.

2. Observe the student in several natural environments during his or her free time and record what he or she does.

3. Offer the student a chance to interact with several novel items and record what he or she does. Repeat the experience over several days and determine if there is a pattern to item selection.

4. Select an item and use it as a reinforcer for a behavior the student already performs independently. Observe to see if that behavior increases.

Many employers may be willing to provide students with employee benefits that are natural to the work site. For instance, if a free lunch is available to the coworkers, an employer usually will make this available to students who are training on the site. Another employer may provide a coffee pot that coworkers are allowed access to during break. Teachers should negotiate with employers and work these natural reinforcers into their students' training programs.

Timing: After items have been identified for use on community-based sites, a schedule of reinforcement should be determined. Ideally, all reinforcement should be given quickly and

immediately following the occurrence of the desired behavior. However, it usually is not feasible on a job site to provide tangible or edible reinforcement immediately after a behavior occurs (Moon et al., 1990a). In addition, most students with severe disabilities will not understand the connection between work well done during the training session and the soda purchased at McDonald's before returning to school. In these instances, the teacher must develop a training program that utilizes exchangeable reinforcers on predetermined schedules. Exchangeable items include money, tokens, points on a card, checks on a calendar, and so forth. Attempts should be made to keep these systems age appropriate (e.g. Do not use happy faces or stickers for high school students.)

There are several advantages to teaching the student to respond to exchangeable reinforcers. First, if the teacher uses money as the exchangeable item, he or she is teaching the student the relationship between work and money. Also, the food item or tangible object can be delivered at an appropriate time i.e. during break. Finally, the teacher can gradually increase the program requirements to earn the exchangeable item in order to fade the reinforcement. As an example, a student earns 10 cents for every 5 minutes of work. When she earns 50 cents, she can "exchange" her coins for a drink in the vending machine. Gradually, the student is required to work for increasing periods of time before earning the 10 cents until the money to buy an item from the vending machine is delivered at the end of the training session.

Schedule of Delivery: Teachers can choose to reinforce students using two types of schedules to include a predetermined number of responses/ratio schedule of reinforcement or a predetermined period of time/interval schedule (Moon et al., 1990a). When delivering reinforcement on a ratio schedule, the teacher may use a fixed-ratio or variable ratio schedule.

In a fixed schedule, reinforcement is provided after a set number of responses (e.g. after ever 3 steps in the task analysis, after every 5 towels folded). It may be preferable to design programs using a variable ratio schedule which requires delivery after an average number of responses. Using this strategy, the student is reinforced on the average of a number of responses (e.g. on the average of every 3 steps in the task analysis, on the average of every 3 towels folded). In this manner, the student is not able to anticipate when reinforcement will be delivered which may approximate the natural environment.

Use of an interval schedule is similar to a ratio schedule in that it too can be delivered on a fixed or variable strategy. In this instance, the teacher designs the program to provide reinforcement based on time intervals. Using the fixed interval schedule, the teacher may select to reinforce a student after every five minutes, at the end of the training session, at the end of the work week, etc.. A variable schedule would occur on the average of a set period of time such as on the average of every 10 minutes.

Regardless of the type of schedule the teacher selects, he or she must design a plan for fading the reinforcement to naturally occurring items on the job site. For instance, always pair verbal praise with the delivery of a tangible item fading to supervisor or coworker approval over the course of the program. Figures 3 and 4 provide instructional programs that demonstrate the use of reinforcement on a job site and the fading process.

f.) Program Modifications

Community-based instruction provides an excellent opportunity for teachers to determine the most effective training strategies to use with specific students in real work sites. By monitoring a student's progress through data collection, the teacher often can pinpoint what changes need to be made in an instructional program to assist a student in skill acquisition.

Occasionally, it is difficult to determine exactly what needs to occur to facilitate success. In these instances, it is suggested that several teachers or the student's transition team brainstorm solutions to problems encountered. The following represents a list of brainstorming questions that can assist in program modifications.

Brainstorming Solutions to Training Problems
(Adapted from Moon et al., 1990a)

1. **Analyze the effectiveness of the training strategy.**
   - Does the prompting procedure (i.e. least prompts, time delay) match the learning style of the student?
   - Is the student responding to the type of prompt(s) selected?
   - Is the student distracted by noise/people in the environment? Is he/she attending to task?
   - Can you reduce the number of skills being taught in order to provide repeated practice on a specific job duty?

2. **Has the task analysis been individualized to match the student's abilities?**
   - Has the task been broken down into small enough steps?
   - Have the physical limitations of the student been taken into consideration?
   - Does the task analysis eliminate the need to make quality judgements?
   - Can several steps of the task be taught rather than the whole task analysis?
   - Would the student benefit from a backward chaining procedure?
   - Do the steps in the task analysis include any external cues or extra prompts that have been added to the task (i.e. turning the pages in a picture book)?

3.) **Have all the components of delivering reinforcement been considered?**
   - Is the reinforcer individualized to the student's needs?
   - Has the student satiated to the selected reinforcer?
   - Is the timing of the reinforcer correct?
   - Is the schedule of reinforcement appropriate?
   - Have the naturally occurring reinforcers become meaningful to the student?

4.) **Can the task be modified for the specific problem area(s)?**
   - Are there simple equipment adaptations that can be added to assist the student?
   - Can extra cues (e.g. visual or tactile) be added to the task?
   - Can coworkers provide assistance during a difficult portion of the task?
   - Can the location of task completion be modified to decrease distractions?

Finally, the information generated during community-based vocational training should be shared with future teachers and adult service agencies to facilitate the transition process from school to work. Figure 5 in the appendix of this chapter provides a community-based training summary for one student who participated in the Vocational Options Project. The information generated from vocational training during her junior year was then available for her teacher, parents, and adult service providers for job placement decisions during her final year of high school.

Summary

In summary, the benefits from training in integrated community work settings are many. First, and perhaps most important, vocational training provides students with experiences in order for them to make informed choices concerning employment post graduation. Even students with the most severe disabilities will be able to indicate choices through behavioral feedback to their teachers such as working faster on one job site vs. another, smiling (or screaming) while performing a task, completing a job duty needing only those reinforcers that are natural to the work site (i.e. coworker presence or supervisor praise), and so forth. Community-based vocational instruction also can increase parental and employers' awareness and expectations of students with severe disabilities. Ultimately, more employers and parents will realize that these individuals can make significant contributions in the community. In other words, community-based vocational instruction demonstrates student competence and facilitates transition from school to work.

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Appendix

1. Table 1: Steps and Activities for Developing a Community-Based Training Site
2. Table 2: Vocational Job Duties for Community-Based Instruction
3. Table 3: Student Training Schedule
4. Figure 1: Business Contact Worksheet
5. Figure 2: Community Assessment of Potential Jobs Worksheet
6. Figure 3: Instructional Program for Least Prompts
7. Figure 4: Instructional Program for Time Delay
8. Figure 5: Student Summary of Vocational Training Experiences

Table 1: Steps and Activities for Developing a Community-Based Vocational Training Program

Steps	Activities
1. Conduct a Community Job Market Analysis.	1. Identify a school task force and/or individual(s) who will be responsible for completing the analysis. 2. Survey the telephone yellow pages. 3. Read the classified section of the newspaper. 4. Contact local business organizations i.e. Chamber of Commerce. 5. Survey school graduates to determine jobs held by individuals with disabilities in the community. 6. Create a list of potential jobs, by job type, that are available to students with severe disabilities.
2. Identify businesses with the targeted jobs and contact the personnel director or employer.	1. Establish a school policy for contacting employers/businesses. 2. Identify school personnel responsible for business contacts. 3. Review and revise (as needed) school insurance/liability policy to cover community-based training sites and transportation. 4. Outline school policy for meeting labor law regulations. 5. Develop a contract for meeting the labor law requirements. 6. Contact the business...By letter and/or telephone: a. Briefly describe the school's community-based program. b. Discuss jobs that may be appropriate for training. c. Schedule a time to visit and explain the program further. 7. Visit the business in person: a. Describe the purpose of vocational instruction. b. Discuss the employer, teacher, and student responsibilities on the job site. c. Explain the labor law regulations for nonpaid work experiences. d. Discuss liability issues. e. Develop a community-based training agreement. f. Identify possible job tasks for training. g. Schedule a time to observe the identified tasks to develop task analyses. h. Send a thank you note. 8. Compile a file for each business visited.

Table 1: Steps and Activities for Developing a Community-Based Vocational Training Program (continued)

Steps	Activities
3. Select and analyze appropriate jobs for community-based training.	1. Visit the job site location. 2. Discuss the identified jobs with the site supervisor. 3. Discuss the job site rules and regulations. 4. Observe the coworkers performing the job duties. 5. Select the tasks best suited for students with severe disabilities. 6. Develop a job duty schedule and task analyses for the activities selected. 7. Identify available times with the employer or department supervisor for training. 8. Request at least 1-2 hour blocks of time for each site identified. 9. Agree on a start date.
4. Schedule community-based training.	1. Identify students to receive vocational training. 2. Hold IEP/ITP meetings for students. a. Identify student training needs. b. Discuss purpose of community-based vocational training with transition team members. c. Write vocational goals/objectives. 3. Match students to available sites. 4. Sign community-based training agreements (student, parent(s), employer, school representative). 4. Develop a daily schedule. 5. Develop a transportation schedule. 6. Send a copy of the schedule to the school principal, special education supervisor, parents, employers, etc. 7. Provide parents with information on individual insurance coverage for liability.
5. Design individual systematic instruction programs.	1. Modify job duty schedules and task analyses based on student characteristics. 2. Select a data collection procedure. 3. Take a baseline of student performance on all tasks to be taught. 4. Select an instructional procedure. 5. Select a reinforcer. 6. Implement the training program. 7. Take probe data on student performance. 8. Routinely review student data and modify program format as needed. 9. Review student goals and objectives for training and update as needed.

Note: This table is adapted from Moon et al., 1990a; Moon et al., 1990b; Moon & Inge, 1993; Pumpian et al., 1988.

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Table 2: Vocational Job Duties for Community-Based Instruction

Training Site	Job Duties
Hechinger (Hardware Store)	1. Stock the Shelves 2. Front (Organize) the Shelves 3. Straighten the Bins 4. Break Down Boxes 5. Clean the Bathrooms 6. Straighten the Battery Section
Shoney's (Restaurant)	1. Empty the Buspan 2. Wash the Dishes 3. Unload the Dishwasher 4. Bus the Tables 5. Roll the Silverware 6. Wipe Tables
Howard Johnson's (Hotel)	1. Clean the Vending Machine Area (wiping vending machines, sweeping, and mopping the floor) 2. Clean the Restroom (sinks, toilets, sweeping, and mopping the floor) 3. Vacuum the Lobby 4. Fold Linen 5. Wash Windows

Table 3: Student Training Schedule

October 22 - December 7

STUDENT	LOCATION	TIME	INSTRUCTOR
R. M.	Shoney's	7:30 - 9:15 a.m.	Curtis
J. G.	Shoney's	9:45 - 11:45 a.m.	Curtis
L. R.	Shoney's	12:45 - 2:45 p.m.	Curtis
M. L.	Hechingers	7:30 - 9:15 a.m.	Chris
G. A.	Hechingers	9:45 - 11:45 a.m.	Chris
H. R.	Hechingers	12:45 - 2:45 p.m.	Chris
C. S.	Howard Johnson's	9:45 - 11:45 a.m.	Stacy
P. P.	Howard Johnson's	12:45 - 2:45 p.m.	Stacy

December 10 - January 18

STUDENT	LOCATION	TIME	INSTRUCTOR
P. P.	Shoney's	7:30 - 9:15 a.m.	Stacy
J. A.	Howard Johnson's	9:45 - 11:45 a.m.	Stacy
H. R.	Howard's Johnson's	7:30 - 9:15 a.m.	Curtis
M. L.	Howard's Johnson's	12:45 - 2:45 p.m.	Curtis
L. R.	Hechingers	7:30 - 9:15 a.m.	Chris
R. M.	Hechingers	9:45 - 11:45 a.m.	Curtis
J. G.	Hechingers	12:45 - 2:45 p.m.	Chris
C. S.	Shoney's	9:45 - 11:45 a.m.	Chris

January 8 - March 8

STUDENT	LOCATION	TIME	INSTRUCTOR
J. A.	Shoney's	7:30 - 9:15 a.m.	Stacy
M. L.	Shoney's	9:45 - 11:45 a.m.	Chris
H. R.	Shoney's	12:45 - 2:45 p.m.	Chris
J. G.	Howard Johnson's	7:30 - 9:15 a.m.	Curtis
L. R.	Howard Johnson's	9:45 - 11:45 a.m.	Curtis
R. M.	Howard Johnson's	12:45 - 2:45 p.m.	Curtis
P. P.	Hechingers	9:45 - 11:45 a.m.	Stacy
C. S.	Hechingers	7:30 - 9:15 a.m.	Chris

Figure 1: Business Contact Worksheet

Name of Business: _____

Job Type(s): _____

Job Title (s): _____

Address of Business: _____

_____

Phone: _____

Name of Contact Person: _____

Date	Type of Contact (Telephone, visit, or letter)	Comments

Form developed by the Rehabilitation Research and Training Center on Supported Employment, Virginia Commonwealth University.

Figure 2: Community Assessment of Potential Jobs

Date of Assessment: (month/year) _____

Name of Business	Job Types/Titles	Contact Person	Address/Phone #

Form developed by the Rehabilitation Research and Training Center on Supported Employment, Virginia Commonwealth University.

Figure 3: Instructional Program Using Least Prompts

Program: Putting Shirts on Hangers

Student: Kate

Community-based site: Burlington Coat Factory/Warehouse

Program objective: Given a box of shirts and a rack of hangers, Kate will place all of the shirts in the box on hangers with 100% accuracy according to the steps in the task analysis for 3 consecutive probe trials.

Rationale: Kate needs to participate in a vocational training program within the community to prepare her for employment by her last year of school. This job will provide her with a training experience similar to a position that she may obtain when she is older.

Student characteristics: Kate is 16 years old with severe mental retardation and paraplegia due to spina bifida. She currently uses a manual wheelchair for transportation which she sometimes refuses to do independently. Upper extremity functioning is within normal limits, however, Kate is unable to weight bear or move her lower extremities. She uses a "reacher" available from the Fred Sammons Catalogue to assist her in completing tasks. This will be incorporated into the task analysis for hanging shirts at Burlington Coat Factory.

Data collection: A baseline of performance will be collected the first day Kate is on the work site. Thereafter, probe data will be collected prior to each training session for the first shirt placed on a hanger. Use a single opportunity probe procedure for both baseline and probe testing with a 5 second latency period between steps. Have Kate move to the work station and give the cue, "Place the shirt on a hanger." Record a (+) for all independent correct responses. Do not provide prompts or reinforcement. As soon as Kate makes an error, discontinue the probe and begin the training session.

Behavior change procedures: A system of least prompts using verbal, model, and physical assistance will be implemented for this program. Provide the instructional cue, if Kate completes the first step in the task analysis correctly, move on to the next step in the chain. If she does not respond within 5 seconds or begins to make an error, provide a verbal prompt specific to the first step in the task (i.e. pick up a shirt). If she responds correctly, move to the next step in the task analysis. If she does not respond within 5 seconds or does so incorrectly to the verbal prompt, provide a model prompt. Move on to the next step in the task if Kate responds correctly to the model prompt. If no response is made within 5 seconds or she initiates an incorrect response, provide a physical prompt to complete the step in the task analysis. Train all steps in the task analysis in this manner moving from the first step to the last.

Data collection during training procedures: Use the task analysis data sheet for data collection. Score a (+) for independent correct responses, a (V) for correct responding after a verbal prompt, a (M) after a model prompt, and a (P) for completing a step with a physical prompt. Training data may be collected on a representative sample of trials during the time on the job site. For instance, the teacher could collect 5 trials during the beginning, middle, and end of the training session. It is not necessary to record every trial that is completed.

Reinforcement: Reinforce Kate on a fixed ratio schedule of every 2 steps in the task analysis with verbal praise specific to work behavior. ("That's good looking at your work." "I like the way you are hanging up the shirts.") Talk to the coworker and supervisor about socially reinforcing Kate for work well done. For instance, ask the supervisor to give a "thumbs-up" sign when passing the work area if Kate is on task.

Provide a break after one hour of work in the employee break room. At the end of each training session, give her $1.00 to spend at McDonald's on the way back to school for a job well done.

When Kate is performing 30% of the steps in the task analysis independently, fade the verbal reinforcement on a fixed ratio schedule of every 3 steps. Continue the other components of the reinforcement procedures outlined above.

When Kate is performing 50% of the steps in the task analysis independently, provide verbal reinforcement on a variable ratio schedule of every 5 steps in the task analysis. Continue with the other reinforcement strategies.

When Kate is performing 75% of the steps in the task analysis independently, verbal reinforcement should be provided at the end of the task. Continue to encourage the supervisor and coworkers to praise and interact with Kate for work well done. Also continue to provide a break daily and trip to McDonald's.

Generalization and maintenance:

1. After Kate is performing **50%** of the steps in the task analysis for **an entire box of shirts**, begin to step 3 feet away from her on those steps that she has demonstrated skill competence. Verbally praise her on the average of every 3 shirts placed on hangers. Interrupt errors and provide instruction as needed by moving back to Kate's side and using the least prompt strategy.

2. After Kate is performing **75%** of the steps in the task analysis for **an entire box of shirts**, step away from her on those steps that she has demonstrated skill competence for 6 feet. Continue at this distance until she reaches the program objective. Interrupt errors and provide instruction as needed by moving back to Kate's side and using the least prompt strategy.

3. Test for generalization to other types of items that can be placed on hangers.

4. When Kate has demonstrated 100% correct responding on all steps of the task analysis for an entire box of shirts, three consecutive probe sessions, the task is considered learned.

NOTE: Data should be reviewed regularly to ensure that Kate is not performing the task to company production standards or displacing the regular worker's job. When this occurs, the teacher needs to advocate for employment or remove Kate from the training site.

Figure 4: Instructional Program Using Time Delay

Program: Rolling Silverware

Student: Janet

Job site: Shoneys Restaurant/Dining Room

Program objective: Given a stack of napkins, a container of silverware, and the teacher positioned 10 feet from the student, Janet will roll silverware with 100% accuracy according to the steps in the task analysis for one entire training session.

Rationale: Janet needs to have community-based vocational training experiences in order to prepare her for the transition from school to work. Learning to complete a job task such as rolling silverware in a busy dining room setting will begin to help her develop community work skills. Janet will also have the opportunity to work alongside a company employee who is responsible for rolling silverware.

Student characteristics: Janet is an 18 year old student with severe mental retardation. She currently is very immature for her age as evidenced by her attempts to hug her teachers and strangers while on community-based training sites. Janet often responds to instruction by physically pulling away from the teacher and "running" several feet away. She will require a reinforcement program to assist her in staying on task while performing her job duties.

Data collection: A baseline of performance will be collected the first day Janet is on the work site. Thereafter, probe data will be collected prior to each training session for the first set of silverware rolled. Use a multiple opportunity probe procedure for both baseline and probe testing with a 3 second latency period between steps. Have Janet move to the work station and give the cue, "Roll the Silverware." Record a (+) for an independent correct response and a (-) for an incorrect or no response. If Janet makes an error on a step or fails to respond within the latency period of 3 seconds, position her to complete the next step in the task analysis. If necessary, complete the step for her when she does not initiate a response or performs incorrectly. Do not provide any prompts or reinforcement.

Behavior change procedures: Use a time delay procedure with a physical prompt to train the steps in the task analysis. The teacher will position herself slightly to the side and behind Janet for instruction.

1.) A delay level of 0 seconds will be used for the first 25 trials of rolling silverware. Place the materials on the table and provide the instructional cue. Immediately provide the physical prompt through each step in the task until completion.

2.) Beginning on the 26th trial, a backward chaining procedure will be implemented.

Figure 4 (continued): Instructional Program Using Time Delay

Continue to implement a 0 second delay on all steps of the task except the last one (Stack bag in silverware container.) Train this step by using a 2 second delay prior to providing the physical prompt. In other words, once step 17 of the task has been prompted using a 0 second delay, pause for 2 seconds to see if Janet performs the step without prompting. Correct performance should be reinforced. If she does not respond within the 2 seconds, provide the physical prompt. If she begins to make an error at any time during the 2 seconds, interrupt the error and provide the physical prompt. Continue with this procedure for the next 15 trials. Thereafter, increase the delay level for each 15 trials to 3, 4, 5 seconds with the maximum delay level set at 5 seconds. When Janet has performed the last step in the task for 5 consecutive trials without prompting, begin training on the next step backward in the chain. Continue all other steps in the task analysis at 0 second delay.

3.) Train backward in the chain of steps in this manner until Janet is performing the task independently.

4.) ***Error Correction:*** Interrupt errors using a physical prompt if Janet begins to make an incorrect response on any step of the task. If 3 errors occur in a row on any one step, provide 10 trials at 0 second delay. Return to the previous delay level.

Data collection during training procedures: Use the task analysis data sheet for training data. Score a(*) on the data sheet for prompted correct responses on those steps being trained using the backward chaining procedure. Score a (+) for unprompted correct responses and a (-) for any incorrect response. Five consecutive +'s indicate that Janet has met the criteria for that step and training should begin on the next step backwards in the chain.

Reinforcement: Provide a continuous schedule of reinforcement for each step in the task analysis on the first 25 trials. (i.e. "That's the way to work." "Good looking at your work." "I like the way you are getting the silverware!" etc.) After each set of silverware is rolled and placed in the container, check off on a reinforcement card that work has been completed. At the end of the training session, show Janet her card and pay her $1.00 for working. She can use this money to buy something on the job site or save it to spend later.

After the first 25 trials have been completed, reduce verbal reinforcement to a variable ratio schedule of 3 steps for prompted correct responses in the task analysis. Continue the card procedure. Always provide verbal reinforcement for steps completed without prompting. Use specific praise that provides feedback for the response:

1. "Good, picking up the fork."

Figure 4 (continued): Instructional Program Using Time Delay

2. "I like the way you folded the napkin."
3. "That's how you stack the silverware!"

After 50 trials have been completed, reduce verbal reinforcement to a variable ratio schedule of 5 steps for prompted correct responses. Continue the check card and verbal praise for each unprompted correct response.

Once Janet is performing a step independently for 10 consecutive trials, begin to fade your verbal reinforcement to every other correct response. After 20 consecutive trials on a step have been performed, discontinue verbal reinforcement on that step fading to the check card system at the end of the entire task. Review data daily to ensure that the schedule of reinforcement is sufficient for skill acquisition. Modify as necessary.

Generalization and maintenance:

1. When Janet performs the task with 100% accuracy for 3 consecutive probe trials, the teacher will move to a seat across the table and implement a 6 second delay procedure. That is, if Janet does not complete a step in the task analysis within 6 seconds, a physical prompt will be provided. No comment will be made nor should Janet receive reinforcement on that step. At this time, the teacher should discontinue the use of the initial task cue and fade to the natural cue of materials on the table. Place a check on Janet's card after every 2 napkins rolled with silverware.

2. When Janet performs with 100% accuracy for one training day with the teacher sitting across the table, move 10 feet away from her. Continue with the 6 second delay and reinforcement on the check card every 3 task completions.

3. When Janet performs with 100% accuracy for one training day with the teacher 10 feet away from her, the program objective will be met.

NOTE: Data should be reviewed regularly to ensure that Janet is not rolling silverware independently to company production standards or displacing the regular worker's job. When this occurs, the teacher needs to advocate for employment or remove Janet from the training site.

Figure 5: Summary of Vocational Training Experiences

Vocational Options Project

"Community-Based Instruction Opens Doors to Supported Employment"

Rehabilitation Research and Training Center • Virginia Commonwealth University • 1314 West Main St. • Box 2011 • Richmond, Virginia, 23284-2011 • Phone (804) 367-1851

Community-Based Training Report

Student: Janet G.
Date of Report: May 9

During the dates of October 22 to March 8, Janet received community-based vocational training at Shoneys, Hechingers, and Howard Johnsons. She worked at each job site for 2 hours, 4 days a week, over a 6 week period. Each of the training sites provided experiences completing different job duties within varying work environments.

Training Site #1: Shoneys (restaurant/food service)

At Shoneys, Janet worked in the dining room to bus and wipe the tables and roll the silverware. Janet was able to independently gather all of the supplies needed to roll the silverware and take them to a booth in the restaurant where she performed the task sitting down. By the end of training, Janet learned to complete 88% of the steps for rolling one set of silverware. Janet also learned to independently walk through the dining room, identify dirty tables, and bus the tables. Once she had acquired these skills, instruction focused on teaching Janet to increase her speed by using both hands to pick up the dishes. Janet wiped each table after busing it but required gestural prompts to start and stop wiping in the correct places. She learned to wipe the table with about 75% accuracy. Janet could carry a bus pan weighing 10 to 15 pounds. She worked at each task (busing and wiping the table; rolling silverware) for 45 to 60 minutes each day. Although Janet was able to perform most of the steps on both jobs, she experienced greater difficulty staying on task when she was busing the tables, due to the number of distractions in the work environment.

Training Site #2: Hechingers (hardware warehouse store/stock clerk)

At Hechingers, Janet learned to stock and front the shelves, and straighten the bins. The work environment required Janet to orient to several work stations in a large store, and provided her with frequent contact with co-workers. Janet reached some level of independence at stocking and fronting the shelves, however her performance was inconsistent from day to day. Most of her difficulty in stocking the shelves was in determining where an item went. Once Janet knew where to put an item, she was able to continue putting up the rest of the stock with occasional encouragement to keep working. Janet also experienced similar difficulties with learning to straighten the bins. This task required Janet to discriminate between similar items in a bin, and sort out the ones that didn't belong there. Janet was able to sort items by shape but needed assistance when the items were similar in size or color. Janet learned to independently push and

Figure 5 (continued): Summary of Vocational Training Experiences

navigate a stock cart, carry stock weighing up to 20 pounds, break down empty boxes, and throw the boxes in the trash bin. Janet could also climb a step ladder independently but required assistance positioning the ladder close to her work.

Training Site #3: Howard Johnsons (motel/janitorial and laundry)

Janet's final position at Howard Johnsons included cleaning the restroom, vacuuming the lobby, folding laundry, and cleaning 2 vending machine areas. Although Janet worked throughout the motel, opportunities for social interactions with customers were limited due to the early hours (7:30 A.M. to 9:00 A.M.) that she worked. Originally Janet's major job duty at Howard Johnsons was to clean the restroom. She was able to independently locate her cleaning supplies and select the ones she needed to clean the restroom. Janet had difficulty determining when she had finished cleaning an item and would often perseverate on certain steps of the task. After 2 weeks on the job, Janet told her parents that she didn't like her job at Howard Johnsons. She also complained that the cleaner smelled bad and made her sick to her stomach. Janet's job was then restructured so that the task of cleaning the restroom was replaced with vacuuming the lobby, cleaning the vending machines, and folding the laundry. Janet continued with the new jobs at Howard Johnsons for the remainder of the training period without further complaints about the job.

In the laundry room, Janet learned how to independently fold the washcloths. Folding hand towels was a more difficult task for her, because she was used to folding them differently at school. Janet was able to independently collect laundry from the hallways, and sort the bed linens from the towels. Vacuuming and cleaning the vending machines involved fine discrimination skills. As with cleaning the bathrooms, Janet was unable to tell where she had cleaned and where she hadn't. Janet showed a definite preference for working in the laundry over the other jobs at Howard Johnsons. Her skills were also strongest in the laundry.

Summary Comments/Impressions

Janet performed best in work environments where there were relatively few distractions. She enjoyed socializing with co-workers on her breaks, but had difficulty focusing on her work when other people were around. Janet could independently orient to large work areas and was able to locate her work station(s), the break room, bathroom, and entrances and exits at each of the training sites. Janet made friends with many of her co-workers and looked forward to seeing them each day. Her interactions with them were appropriate most of the time, though she did need reminders not to attempt to hold hands with co-workers or interrupt them while they were working.

Janet did not tire noticeably during the 2 hour work period, and behaved appropriately at each training site. She did however have difficulty keeping her hands away from her face and hair while she was working. Although this did not interfere with most of the jobs, it did become an issue with rolling the silverware. One strategy for helping Janet to realize the importance of keeping her hands clean was to have her leave the work area and go wash her hands each time she picked at her face or hair. This helped her decrease the behavior quickly and successfully.

Figure 5 (continued): Summary of Vocational Training Experiences

The system of least intrusive prompts was the most effective instructional strategy used with Janet. Physical assistance was rarely used with Janet, because she would frequently jerk away from the instructor when she was touched on the hand or look away from her work. It was possible to provide physical assistance by manipulating Janet's work materials (for example, holding one end of the vacuum cleaner and guiding it while Janet held onto the handle). Backward chaining was also an effective instructional strategy for Janet. With this method, Janet learned to complete the last step of the task first. Once she had acquired that step, the next to the last step was taught. Each step of the task was taught in reverse order.

Points to Consider for Employment:

1. The best instructional strategies for Janet are the system of least intrusive prompts and backward chaining. Physical assistance should be avoided unless it can be provided without directly touching Janet.
2. Janet is able to independently orient to large and small work environments, but has difficulty focusing on her work when other people are around.
3. Janet's endurance and motivation to work remained consistent for 2 hour time periods between 7:30 A.M. and 3:00 P.M.
4. Jobs should be targeted for Janet which involve a repetitive sequence of 4 to 6 steps in a work environment with minimal distractions.
5. Janet's strengths are in collecting and sorting linens, folding laundry, rolling silverware, and busing tables. She demonstrated limited independence in cleaning tasks.
6. Janet's mother reported that Janet found certain odors (cigarette ashtrays, nursing homes, etc.) aversive. It appeared that the cleaner used in the Howard Johnsons restrooms made Janet sick, however when the same cleaner was used in an open area to clean the vending machines, Janet was fine. It is uncertain how cleaning solutions may effect Janet and under what circumstances these effects may occur. This should be considered when targeting a job for employment.
7. Janet is very social and is able to initiate and carry on conversations with co-workers. Sometimes she initiates conversations at inappropriate times and tries to stand too close or hold the co-worker's hand. Training can successfully decrease this behavior.
8. Janet is able to carry a 20 pound bus pan for short distances (15 to 20 feet).
9. Janet touches her face and hair a lot when she is working. This behavior decreased when Janet was required to wash her hands each time she touched her face or hair.
10. Janet is able to ask questions when she needs assistance.

Figure 5 (continued): Summary of Vocational Training Experiences

Future Recommendations:

It is recommended that Janet continue to receive vocational training on specific jobs in the community 3 to 5 days a week. When this is not feasible, individual jobs should be targeted for Janet on school grounds, outside of the classroom. Since Janet is nearing the end of her school years, the majority of her instructional programming should focus on expanding her vocational skills and determining her job preferences. Based on our observations of Janet on the job site, it is also recommended that the following skills be addressed:

1. Refine Janet's current social skills by providing instruction on how to initiate a conversation (i.e. start at the beginning of a story, not the middle), how to stand/sit when talking (appropriate distance you should stand/sit from the person you're talking to; keep hands at your side), and the appropriate content of a conversation to non-relatives (i.e. don't discuss personal things that are happening in your family).

2. Develop a daily grooming program to include washing and combing hair, face washing, and toothbrushing. Focus on teaching Janet the appropriate times and places to adjust her hair, as well as the need to keep her hands clean and away from her face during work.

3. Janet possesses many work skills and takes pride in completing tasks independently. Future instruction should be geared toward training Janet to self monitor her own work and break times.

4. Janet is an excellent candidate for supported employment. She will be placed in the Vocational Options Project supported employment referral pool and referred to the Department of Rehabilitative Services.

SIGNED: _____

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_____

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_____

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Community-Based Vocational Instruction and the Labor Laws: A 1993 Update

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Community-Based Vocational Instruction and the Labor Laws: A 1993 Update

The most recent reauthorization of The Education for Handicapped Children Act occurred during the 101st Congress. P.L. 101-476 became law in September of 1990 and is now known as The Individuals with Disabilities Act (IDEA). Under these amendments, every student, age 16 and older (in some cases at age 14 or younger) must have a statement of needed transition services as part of his or her Individualized Educational Program (I.E.P.). This emphasis on preparing students to live and work in their communities places an even greater demand on school systems to develop community-based training programs. In terms of employment, this means that students will need to participate in unpaid community work experiences such as vocational assessments, vocational exploration, and vocational training (Moon, Kiernan, & Halloran, 1990). Community-based vocational training has been defined as:

> ***"the type of [training] that uses the facilities, materials, persons, and/or tasks within a business to teach and assess students' work and related tasks. In this sense, the actual business environment is considered an extension of the classroom. Teachers, counselors, and support staff perform their instructional and evaluation roles within the context of these business environments."***
>
> (Pumpian, Shepard, & West, 1988)

Many teachers when designing this type of training for their students with disabilities are unaware that there are specific Department of Labor (DOL) regulations that must be met.

Still others believe that nonpaid work experiences are acceptable as long as vocational objectives appear in the students' I.E.P.s or Individualized Transition Plans (I.T.P.). This is not the case, and school systems must adhere to the rules and guidelines of the Fair Labor Standards Act (FLSA) administered through the United States Department of Labor (Halloran & Johnson, 1992; Moon & Inge, 1993).

Currently, there are a few resources available to assist teachers in interpreting the relationship between labor regulations and community-based instruction. Moon, Kiernan, and Halloran (1990) wrote at length on the labor laws as a result of the FLSA amendments in 1989. For the first time, teachers were provided a comprehensive explanation of FLSA regulations with case study examples. More recently, Halloran and Johnson (1992) discussed the guidelines that were issued prior to the beginning of the 1992-93 school year by the U.S. Department of Education (ED) and DOL. These guidelines must be incorporated in community-based training programs for students with disabilities. The intent of this article is to: 1.) provide a copy of the guidelines, 2.) answer common questions that teachers may have concerning the regulations, and 3.) provide case study examples that may assist teachers in interpreting this information.

Guidelines

Understanding a number of key concepts and issues is critical to successfully implementing the guidelines that were released by the Departments of Education and Labor. First, the primary intent of the FLSA is to ensure that individuals are not exploited in the workplace (Halloran & Johnson, 1992). One way to make certain that students with disabilities are not exploited in community-based vocational programs is to ascertain that a

"nonemployment relationship" exists between the students and the employer. In other words, the relationship exists for training purposes only, **and activities completed by students do not result in an immediate advantage to the business.**

A number of factors should be considered when determining whether a business is benefiting from having students in community-based instruction. First, the student(s) and teacher (or other school representative) can not complete an employee's job duties while he/she is reassigned to other work tasks that are not usually his/her responsibility. The employee must continue to do his/her work while the student is trained on those tasks as well. This has been referred to as "shadowing" the regular employee (Moon et al., 1990). In addition, students can not perform services that, although not ordinarily performed by employees, clearly benefit the business.

Before placing a student in a community business for instruction, the teacher and student's I.E.P. team must identify the goals and objectives that are to be trained and include them in the student's I.E.P.. In addition, the teacher must make sure that the employer, student, and parents understand that the placement is intended for training purposes; is a nonpaid experience; and the student is not guaranteed a job after the training is complete. It is important to develop an agreement between all parties concerned that specifically states the intent of community-based vocational instruction including the DOL and ED guidelines. A sample training agreement used by the Vocational Options Project is included in the appendix of this article.

Teachers need to realize that **all of the criteria** spelled out in the guidelines released by the Departments of Education and Labor must be met in order to assert that an employment relationship does not exist. Fines can result, and businesses can be held responsible for back wages if violations are identified. A copy of the actual guidelines follow:

Figure 1: U.S. Department of Labor and Education Guidelines

Statement of Principle

The U.S. Departments of Labor and Education are committed to the continued development and implementation of individual education programs, in accordance with the Individuals with Disabilities Education Act (IDEA), that will facilitate the transition of students with disabilities from school to employment within their communities. This transition must take place under conditions that will not jeopardize the protections afforded by the Fair Labor Standards Act to program participants, employees, employers, or programs providing rehabilitation services to individuals with disabilities.

Guidelines

Where ALL of the following criteria are met, the U.S. Department of Labor will NOT assert an employment relationship for purposes of the Fair Labor Standards Act.

- *Participants will be youth with physical and/or mental disabilities for whom competitive employment at or above the minimum wage level is not immediately obtainable who, because of their disability, will need intensive on-going support to perform in a work setting.*

- *Participation will be for vocational exploration, assessment, or training in a community-based placement work site under the general supervision of public school personnel.*

- *Community-based placements will be clearly defined components of individual education programs developed and designed for the benefit of each student. The statement of needed transition services established for the exploration, assessment, training, or cooperative vocational education components will be included in the students' Individualized Education Program (IEP).*

- *Information contained in a student's IEP will not have to be made available; however, documentation as to the student's enrollment in the community-based placement program will be made available to the Departments of Labor and Education. The student and the parent or guardian of each student must be fully informed of the IEP and the community-based placement component and have indicated voluntary participation with the understanding that participation in such a component does not entitle the student-participant to wages.*

- *The activities of the students at the community-based placement site do not result in an immediate advantage to the business. The Department of Labor will look at several factors.*

    1. *There has been no displacement of employees, vacant positions have not been filled, employees have not been relieved of assigned duties, and the students are not performing services that, although not ordinarily performed by employees, clearly are of benefit to the business.*

    2. *The students are under continued and direct supervision by either representatives of the school or by employees of the business.*

3. *Such placements are made according to the requirements of the student's IEP and not to meet the labor needs of the business.*

4. *The periods of time spent by the students at any one site or in any clearly distinguishable job classification are specifically limited by the IEP.*

- *While the existence of an employment relationship will not be determined exclusively on the basis of the number of hours, as a general rule, each component will not exceed the following limitation during any one school year:*

Vocational exploration	*5 hours per job experienced*
Vocational assessment	*90 hours per job experienced*
Vocational training	*120 hours per job experienced*

- *Students are not entitled to employment at the business at the conclusion of their IEP. However, once a student has become an employee, the student cannot be considered a trainee at that particular community-based placement unless in a clearly distinguishable occupation.*

It is important to understand that an employment relationship will exist unless all of the criteria described in this policy guidance are met. Should an employment relationship be determined to exist, participating business can be held responsible for full compliance with FLSA, including the child labor provisions.

Businesses and school systems may at any time consider participants to be employees and may structure the program so that the participants are compensated in accordance with the requirements of the Fair Labor Standards Act. Whenever an employment relationship is established, the business may make use of the special minimum wage provisions provided pursuant to section 14(c) of the Act.

We hope that this guidance will help you achieve success in the development of individualized education programs.

ROBERT R. DAVILA
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U.S. Department of Education

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Frequently Asked Questions on the Fair Labor Standards Act

The following information may be very helpful in interpreting the above guidelines. These questions and answers were developed by Marlene Simon, National Transition Network, and Dr. William Halloran, U.S. Department of Education. The topics discussed include: 1.) requirements for participation, 2.) documentation issues, 3.) program supervision, 4.) the educational versus the employment relationship, and 5.) instructional programming.

Requirements for Participation

1. Which students may participate in community-based vocational instruction under these guidelines for non-employment relationships?

Students who meet state guidelines for special education may participate in community-based vocational instruction if it is determined appropriate for them.

2. The criteria in the guidelines indicate that community-based vocational education is for individuals for whom employment *is not immediately obtainable*? What does this mean?

The "not immediately obtainable" language was placed in the criteria to ensure that students would not be placed in the exploration, assessment, or training components of community-based vocational education if they were capable of obtaining employment at or above the minimum wage level. Community-based vocational programs are organized educational activities intended to prepare students for paid employment while they are in school.

3. Community-based instruction is intended for students who will need *intensive on-going support* to perform in a work setting. Does this mean that only students with more severe disabilities can be placed in community-based instruction?

Community-based vocational education is intended for those students with more severe disabilities. However, the level of severity must be based on skills and behaviors necessary to function in a work setting. Examples of on-going support services include job redesign, environmental adaptations, personal assistance services, transportation, and social skills training (Rehabilitation Act Amendments of 1992, Senate Report 102-357, p. 24).

Documentation Issues

1. What type of documentation is needed?

It is important in community-based vocational instruction programs to document that all participants - the student, the parent or guardian, the employer, and instructional staff - understand that:

- If at any point the community-based vocational activity is no longer a learning experience, it can not be considered a nonemployment relationship;
- The community-based vocational program must meet all the requirements outlined in the guidelines for nonemployment relationships; and
- The student is not entitled to employment at the worksite where they are receiving instruction and training.

Three types of documentation must be employed to meet the requirements of these guidelines:

1.) an I.E.P. reflecting vocational instruction and training goals and objectives relevant to the community-based vocational experience;
2.) **a letter of agreement** outlining the DOL/ED requirements and signed by all participants; and
3.) **ongoing case notes** (i.e. attendance records, progress reports, task analysis data, etc.).

2. Is it necessary that the vocational goals and objectives in the I.E.P. specify exact site placements?

No, it is possible for the I.E.P. to identify only general goals and objectives to be pursued (i.e., job clusters to explore or conduct assessments in; assessments of general work behavior skills; training in a specific occupation, etc.). The I.E.P. should, however, expressly limit the amount of time students will spend at any one site or in any one distinguishable job classification. Additional written agreements with parents, students, and employers should reflect the exact location and document the specific nature of the education and training involved.

3. Do reports have to be made to the U.S. Department of Labor and/or the U.S. Department of Education?

No, it is not necessary to make reports to the U.S. Department of Labor or the U.S. Department of Education. However, adequate records documenting your programs' compliance with the criteria for non-employment relationships must be maintained. In the event of a Department of Labor investigation of your program this information must be made available to the DOL. A school system should contact their state and federal Departments of Labor when initiating community-based training programs and identify a contact person. It may be useful to send general information about the intended

training program and obtain feedback concerning compliance with regulations. The appendix of this paper contains a letter and summary statement that was mailed to the U.S. Dept. of Labor concerning the Vocational Options Project.

4. Do the guidelines from the federal Department of Labor supersede individual State Departments of Labor regulations?

No, it is important that community-based vocational instruction programs comply with both U.S. Department of Labor regulations and State Department of Labor regulations. Where the two do not agree, the regulations with the most stringent requirements for protecting individuals in work settings must apply.

Program Supervision

1. What is meant by the term *under the general supervision* of public school personnel?

Under the general supervision means that the public school or education agency has primary responsibility for the community-based education program. Under IDEA, failure to deliver free appropriate educational services constitutes a violation of the rights of students with disabilities. This phrase places responsibility for ensuring that community-based vocational programs squarely on the shoulders of public school personnel. While different agencies or groups may deliver these educational services, public school personnel must act as the central agency overseeing the program.

2. What are the implications of the *continued and direct supervision* requirement for educators and employers?

Student participation in community-based vocational training is considered as a valid part of a student's instructional program. As such, he or she is expected to be closely supervised by school staff or employees of the business.
Direct supervision can include:

- one-to-one instruction,
- small group instruction,
- supervision in close proximity, and
- supervision in frequent, regular intervals.

Supervision in frequent, regular intervals is permitted when the goal is to assess ability to work independently or to demonstrate mastery of the vocational skill.

3. Is it necessary for someone to monitor the student at all times?

Students in community-based training programs are to be monitored at all times. However, exactly how closely a student needs to be monitored in a community-based work setting must be determined on an individual basis. The various components of

training could require a variety of monitoring strategies depending on the goals and objectives outlined in the I.E.P. For example, vocational exploration and vocational assessment may require closer monitoring than the training component when the student may be working towards more independence in job performance.

4. How might educators document meeting the general supervision criteria?

Educators can document the general supervision criteria by developing the student's I.E.P.. If a third party, such as a community-based rehabilitation program is being utilized to carry out the provisions of the I.E.P., it should be noted. The education agency must ensure that these guidelines are fully understood and will be followed by the provider.

The Educational Relationship vs. The Employment Relationship

1. What is an employment relationship?

In an **employment relationship**, the student is actually providing services that are of immediate benefit to the employer. The student may be completing assignments normally completed by regular employees. As a result of their activities, vacant paid positions in the business may remain unfilled and regular employees may be displaced or relieved of their normally assigned duties. In an employment relationship, the participating business and school are responsible for compliance with the FLSA's minimum wage and overtime pay provisions.

2. What is an educational relationship?

In an **educational relationship** the student engages in work activities as part of an organized educational activity designed to benefit the student. The guidelines on implementing community-based vocational training, consistent with the FLSA, outlines the criteria for making the distinction between an employment relationship and a valid educational experience.

3. What is the distinction between benefit to the student vs. benefit to the employer?

Benefit to the employer occurs when the business recognizes ***an immediate advantage*** by having a student work on the premises. ***An immediate advantage*** can be defined in terms of increased profitability or production for the business. The courts and experts in the field suggest that for community-based vocational instruction to represent an educationally valid experience the following should be implemented (Pumpian, Lewis, & Engel, 1986):

- Students receive adequate orientation and instruction before performing new tasks.
- The student's goals and objectives to be met in the community-based instruction program are clearly defined.
- Activities in the community-based setting relate directly to the student goals and objectives.
- The student's activities in the program are closely monitored.
- Records of the student's progress are maintained.
- The necessary support and time for students to develop proficiency at new tasks is provided.

4. What is the educator's role in assuring that regular employees will not be displaced by the student trainee in the workplace?

The community experience must be primarily for the benefit of the student. Also, regular employees must not be displaced or relieved of assigned duties and vacant positions should not go unfilled. Two strategies are available to educators for ensuring that this criteria is met. First, the educator can confirm that all parties - the employer, the student, and the parents - understand that students in the community-based vocational training program must not displace regular employees. An agreement documenting this understanding should be signed by all involved. Secondly, those who provide direct supervision to the student at the worksite may observe when employee displacement and other violations are occurring and take steps to correct the situation.

5. Can students accept an offer of paid employment at a worksite where they were placed for community-based instruction?

Yes, students may accept an offer of paid employment at a work site where they received instruction and training. The student would then become an employee of the business and an employment relationship would ensue. This means that the employer is responsible for full compliance with the FLSA, including minimum wage and overtime pay provisions.

6. Could the student be paid less than minimum wage?

Yes, employment below the minimum wage rate is permitted in instances when a worker's disabilities impair their ability to perform the job. This special minimum wage rate is based on the productivity of the worker with disabilities as compared to the productivity of a worker without disabilities. Employers must apply to the U.S. Department of Labor for authority to employ workers with disabilities at these special minimum wage rates.

Instructional Programming

1. Is it necessary that the program follow sequential order (i.e. exploration, assessment, training)?

No, it is not necessary that the community-based vocational training program follow a prescribed order. Given the nature of the student's needs, any of the three components may be deleted. it is only necessary that the program follow logical, generally agreed upon instructional best practices. For example, assessment and exploration usually would not follow training in one job classification.

2. **Does the I.E.P. team have to reconvene for multiple vocational explorations, assessments, and training?**

No, it is not generally necessary to reconvene the I.E.P. team for multiple vocational explorations, assessments, and training. The vocational I.E.P. objectives and goals can be written broadly enough to incorporate these experiences.

3. **What is meant by the phrases *clearly distinguishable occupation* and *clearly distinguishable job classification*?**

The word *occupation* refers to a specific profession or vocation generally engaged in as a source of livelihood. Occupation and job classification are meant to be synonymous. Examples of occupations are shipping and receiving clerk, custodian, and painter. Often occupations are confused with specific work activities or work stations which may be integral components of specific occupations. For example, work as a building custodian involves sweeping, emptying trash, and mopping. Each of these work activities must be considered as part of the clearly distinguishable occupation of custodian. A student who has received all allowable hours of non-paid instruction and training in the job of school custodian should not be moved to a new site for a separate experience as a non-paid office building custodian.

4. **Given these guidelines, could an employer move students around to different work stations or occupational areas not specified in their written agreement?**

No, as stated earlier, goals and objectives for the student have been outlined in the I.E.P. and written agreements between the student, parent, employer, and school personnel detail specific activities for the community vocational experience. Thus, the community-based vocational experience can be considered a valid educational experience under the supervision of school personnel. Employers must feel free to remove students from any work activity if they determine that removal is necessary for safety or other reasons. However, under no circumstances should the student be placed in a work station or occupational area not specifically outlined in the written agreement.

5. **Do these guidelines refer to programs under special education and/or vocational education?**

It does not matter whether the community-based vocational program is offered through special education or vocational education. However, students participating in training under these guidelines for nonemployment relationships **must be youth with disabilities as defined by the Individuals with Disabilities Education Act.**

6. Do these guidelines apply to work during the summer?

Yes, these guidelines may apply to summer programs as long as they are under the general supervision of school personnel. Many students have individualized instructional programs that call for an extended year educational program. Other students may simply elect to enroll in summer school.

Interpreting The Guidelines: Case Study Examples

Understanding the labor laws can be a complicated task. School systems must assume the responsibility for adhering to the guidelines and developing a community-based training policy. Initial work with the state and federal labor departments can ensure appropriate training experiences for all students. The following case studies represent typical scenarios that have been described by school system personnel when asking questions concerning the FLSA and community-based vocational training. Understanding these scenarios may prove helpful when designing community-based vocational training programs that meet the DOL and ED guidelines.

Case Study #1

Joan is 18 years old with severe mental retardation and mild cerebral palsy. At the beginning of the school year, Joan's transition team consisting of the teacher, her parents, a vocational rehabilitation counselor, a physical therapist, and Joan decide that she should participate in a minimum of 3 vocational training placements during the school year. The team agrees to placements at the mall's food court, a hotel laundry, and a beauty shop. Job duties at the mall will include busing tables and cleaning trays. Work tasks at the hotel laundry and beauty shop will be similar, since the duties on these job sites are washing and folding towels. However, the team feels that it would be important to determine if Joan prefers the beauty shop environment to the hotel laundry. All tasks are specified in Joan's I.E.P., data will be collected, and a summary of each training experience will be written up for her school records. Joan, her parents, and each employer will sign an agreement prior to training stating that these are

nonpaid work experiences to benefit Joan and not the companies. A teacher or aide will be with Joan at all times to provide supervision, instruction, and data collection.

Response to Case Study #1

Joan's transition team is certainly on the right track! One potential problem area could be that the community-based training experiences at the laundry and beauty shop are the same job type. (e.g. Joan will be washing and folding towels.) Some teachers may interpret the guidelines to mean that Joan could have **120** hours of training at the laundry and **120** hours at the beauty shop during the school year. This is not the case unless the tasks performed at the laundry and hotel are of clearly different job classifications. In Joan's example, the teacher should monitor the training experiences to ensure that Joan receives only **120 hours** of vocational training per job type experienced in any one school year. The agreement with the various employers also should specify that Joan and her teacher are not displacing company employees, filling vacant positions, or otherwise benefiting the business during community-based instruction. For instance, they would need to "shadow" or work alongside the regular employees while completing the work tasks at all sites.

Case Study #2:

Sally is 16 years old and is participating in her school's community-based vocational training program. She has been training for the past 2 1/2 months at a fast food restaurant washing trays. Sally became very proficient at the task within one month, and her teacher brought in another student, Mary, to train on cleaning tables and sweeping the floors of the restaurant. The regular worker who washes trays and cleans the tables has been re-assigned to clean the bathrooms and parking lot while the teacher is on the site with her two students. The teacher continues to monitor Sally's progress and collect data for on-task behavior and meeting

production standards while training the new student. Since Sally has not completed **120 hours** of unpaid training in this job classification, the teacher is not worried about moving her to a new training site.

Response to Case Study #2

As established now, this training site **does not** meet the guidelines of the DOL. Specifically, Sally, Mary, and the teacher are displacing the regular employee who can now move on to cleaning the parking lot and restrooms. This benefits the employer, since the students and teacher are completing the regular work tasks. In addition, Sally is completing the tray washing job at the normal work rate and would qualify as an employee. Since she is 16 years old, Sally could be hired by the employer at the regular wage if her transition team decided that this is an appropriate job for her. Mary could continue in her nonpaid experience as long as a training agreement were developed that included all of the DOL requirements for a nonemployment relationship.

It is possible to change this site so that both Sally and Mary can continue training here. First, specific objectives should be included in both student's I.E.P.s that state what they are to learn on this site. Next, a training agreement should be developed that states that the students and teacher will not displace the regular worker. In fact, the students must "shadow" the regular employee and perform in a manner that does not benefit, and may, in fact, impede, the employer. The agreement should specify that the experience is for training only and data should be collected by the teacher to demonstrate that this is a nonemployment relationship. In this example, Sally needed to begin training and "shadowing" the regular employee on another job task as soon as she learned the tray washing job. The **120** hour guideline is intended to represent the maximum amount of time a student can **train** on one job classification per year.

Finally, the training agreement should specify that the students do not qualify for a job after they have completed training.

Case Study #3

Mrs. Jones is the teacher for a class of students with severe disabilities ages 16-18. She is attempting to find all of her students "volunteer" positions within the community for at least 2 hours per week to help them gain work experiences. Mrs. Jones' cousin, Ms. Andrews, runs a catering business and suggests that she would be willing to have one student work for her every Monday afternoon from 3:30 p.m. to 5:30 p.m.. Tasks would include washing dishes, packaging foods in containers, and simple food preparation. Ms. Andrews also would be willing to have two other students fold and label her advertising brochures once a month for approximately 4 hours of work. Both of these jobs would be considered "volunteer positions". Mrs. Jones knows that two of her students can complete the mailing task without supervision, and another student has training in simple food preparation. Mrs. Jones doesn't plan on listing these activities as part of the students I.E.P.s, since it occurs during non-school hours, and she will not need to provide any training or supervision.

Response to Case Study #3

Students who have disabilities can volunteer their time in the same way as their peers without disabilities (Moon et al., 1990). For instance, Mrs. Jones might try to identify volunteer positions with the United Way, church, SPCA, or other local charity organization for her students. However, in this situation, it is unlikely that 16-18 year old students would volunteer for 2-4 hours of nonpaid work, since most food service positions are not voluntary. All students must be paid at least minimum wage if this is not a training experience.

Another option might be to determine if the students are able to meet the production

levels for these particular jobs. If not, the teacher could consider assisting the employer (her cousin) to file for a **Special Handicapped Worker Certificate**. This certificate can be used when production levels for a particular job fall below the norm. The employer is generally responsible for obtaining a certificate of this type, however a rehabilitation counselor or school representative can submit a group application for all students and employers participating in a school work experience program. It appears that the mailing task could be paid at subminimum wage if two students are needed to complete the task in the time period usually required by one employee. The student who will work every Monday may also qualify for subminimum wage if he/she cannot work at the established company rate of production. The important thing to note is that the certificate must be in effect prior to employment. Regional DOL offices, Wage and Hour Division, have the directions and forms.

Case Study #4

Mr. Bryant is the teacher for a classroom of students with severe disabilities age 16-18. The school is located in a small community with few opportunities for community-based vocational instruction. There is one restaurant/deli in town, and Mr. Bryant has developed a training agreement with the owner. The agreement states that he will take all **5** of his students to the restaurant 2 days a week, for 4 hours of nonpaid work experience (not to exceed **120** hours in a school year). The owner agrees to set up one work station in the middle of the kitchen for all **5** students where they will complete jobs such as wrapping sandwiches in foil, rolling silverware in napkins, and filling individual potato salad and slaw containers. During the time that the students are on site, the 3 employees hired by the business will continue work on their regularly assigned job duties which include the tasks that will be completed by the students. The fact that the students are not at the deli to benefit the employer has been carefully

discussed, and the regular employees will not be assigned other job duties.

Mr. Bryant also has explained this training experience at each student's I.E.P. meeting. All parents have signed an agreement with the employer stating that this is a nonpaid work experience and that the students are not entitled to a job at the end of training. Each student has a set objective that he/she will be trained on, and Mr. Bryant plans to take data one day a week for each student. He will be monitoring the data carefully to ensure that the students maintain a nonemployment relationship. Mr. Bryant is very relieved that he has been able to set up this site, because he doesn't have to worry about community-based instruction for the rest of the school year.

Response to Case Study #4

Technically speaking, Mr. Bryant has met the requirements for a nonpaid community-based training experience! Clearly, having 5 students with a trainer in the middle of a kitchen during the lunch hour could be considered impeding the employer. Mr. Bryant also has addressed all of the DOL guidelines for a nonemployment relationship.

However, this situation does not reflect "best practices" for designing a community-based vocational training experience. For instance, all 5 students will be on site, at the same time, in the same work area. It would be more beneficial to place no more than 2-3 student(s) on this job during any one time period, since there are only 3 regular employees at the site. Students could be assigned a regular employee to shadow, one-to-one, while a school representative is responsible for the direct supervision, training, and data collection. Direct supervision could entail one-to-one instruction, small group instruction, supervision in close proximity, and supervision in frequent, regular intervals (Simon & Halloran, unpublished paper). Supervision in frequent, regular intervals would be appropriate for one of Mr. Bryant's students

when the goal is to assess the ability for him/her to work independently or demonstrate mastery of a skill. For instance, Mr. Bryant may monitor a student who has been assigned to a regular employee every 30 minutes to determine if he/she is able to work without the teacher's constant supervision. This goal of working independently should be specified in the student's I.E.P..

Mr. Bryant also needs to ask himself if this job is reflective of the type(s) of employment that is available to his students post graduation. If this is the sole restaurant in town, and the owner only hires 3 employees, it may be pointless to train all of his students to complete food service tasks. In addition, Mr. Bryant has failed to provide any variety or job sampling for his students. Since only one job is offered during the year, a student does not have the opportunity to compare various positions to establish a work resume/history or determine a job preference. Mr. Bryant needs to complete a community analysis to determine what other jobs are available and establish training agreements with additional businesses.

Case Study #5

John is 13 years old and is participating in a school-based vocational program, two days a week for 1 hour per day. His teacher provides training and supervision to him and two other classmates for picking up trash on the school grounds. Each student has objectives on his/her I.E.P. for this activity and all parents are supportive of the training. Once a week, on Wednesday, the school's custodian (who is employed by the school district) works alongside the students and assists the teacher in providing feedback and support. The custodian has even volunteered to supervise the students on his regular trash pick up day in order to "free up" the teacher to work with other students.

Response to Case Study #5

It may be particularly beneficial to provide initial work experiences for younger students

within the school building or on the school grounds. The DOL has established that work experiences can occur directly for the school if the time period is less than an hour per day on the average. John and his classmates can participate in this school based vocational activity, since they are only working for 2 hours per week. In addition, it represents an excellent opportunity for the school custodian to provide natural supports to these students for performing job tasks.

It is important to note that the custodian is a school employee. If this job had been performed by an outside vendor (e.g. a private lawn maintenance crew), the teacher must be certain to establish a nonemployment relationship according to the DOL guidelines. Teachers are cautioned to make sure that targeted jobs within the school system are being completed by school employees and not outside vendors when selecting vocational training activities. In other words, students, regardless of age, can participate in nonpaid work experiences within the school system if an outside vendor is not involved. The teachers responsible for coordinating this type of experience, however, should provide some type of training stipend to the students or incentive such as a free lunch in order to instill the value of work (Moon et al., 1990).

Summary

Understanding whether vocational training does or does not require payment to students can be a complicated task. However, the preparation of guidelines by the Departments of Labor and Education has simplified the process for school districts. In addition, it is hoped that the information presented in this article provides a resource that will facilitate community-based training experiences for students with severe disabilities.

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Appendix

1. Sample Community-Based Training Contract.
2. Sample letter to the Department of Labor.

Vocational Options Project

"Community-Based Instruction Opens Doors to Supported Employment"

Community-Based Vocational Training
Labor Law Regulations Contract

According to this agreement, _____ agrees to permit
(BUSINESS SPONSOR)
_____, age _____ to enter its work site for the purpose
(STUDENT)
of receiving community-based vocational training for _____
(JOB TASKS)
This training agreement will serve as a guide to ensure that the student receives opportunities for training in the specific skills for the job activities selected, as well as, the vocational and social skills related to the job. Instructional programs have been developed and will be used by _____. The use of these programs has been agreed upon by:
(Trainer)

_____, _____, _____, and
(Business Sponsor) (School Representative) (Student)

_____.
(Parent)

The training period begins the _____ day of _____, 19__, and will end the _____ day of _____, 19__. The student will be on site from _____ to _____, on _____.
(STARTING TIME) (ENDING TIME) (DAYS)

The trainer will be responsible for ensuring that the student follows company policies and regulations that apply to all employees. The student agrees to attend vocational training according to the schedule and participate in the instructional program. He/she will be covered by accidental/health insurance provided through the school system during training hours. It is understood that the employer **will not pay** the student for the job duties completed while on this community-based training site. It is also understood that ***the activities of the student will not result in an immediate advantage to the business.***

All instructional program procedures for this experience are part of the student's IEP or ITP goals and objectives. The teacher/trainer will be responsible for the direct supervision of the student and will collect data on all skills that are being trained. The business sponsor reserves the right to discontinue the training placement at any time. However, if a problem arises, the employer agrees to discuss the situation with the teacher/trainer immediately to identify solutions prior to discontinuing the training experience.

Community-Based Vocational Training Labor Law Regulations Contract (continued)

All parties agree to abide by the guidelines developed by the U.S. Department of Labor and the U.S. Department of Education for non-paid vocational training sites to include the following:

- The student participating in this training experience is an individual for whom competitive employment at or above the minimum wage level is not immediately obtainable and who, because of his/her disability, will need intensive on-going support to perform in a work setting.
- The student will participate under the general supervision of public school personnel.
- Community-based training will be clearly defined in the student's I.E.P. and will be designed specifically to benefit the student.
- Documentation of student enrollment in the community-based placement program will be made available to the Departments of Labor and Education.
- All parties entering into this agreement realize that participation in this training does not entitle the student-participant to wages.
- The activities of the student at this job site will not result in an immediate advantage to the business. This will include the following:

  1. There has been no displacement of employees; vacant positions have not been filled [by students]; employees have not been relieved of assigned duties; and the students are not performing services that, although not ordinarily performed by employees, clearly are of benefit to the business.
  2. The students are under continued and direct supervision by either representatives of the school or by employees of the business.
  3. Such placements are made according to the requirements of the student's IEP and not to meet the labor needs of the business.
  4. The periods of time spent by the students at any one site or in any clearly distinguishable job classification are specifically limited by the IEP. Each component will not exceed the following limitation during any one school year:

Vocational exploration	5 hours per job experienced
Vocational assessment	90 hours per job experienced
Vocational training	120 hours per job experienced

- Students are not entitled to employment at the business at the conclusion of their IEP. However, once a student has become an employee, the student cannot be considered a trainee at that particular community-based placement unless in a clearly distinguishable occupation.

Community-Based Vocational Training Labor Law Regulations Contract (continued)

If any of the above criteria fail to be met during the student's placement, he/she will be withdrawn from the training site. It is also agreed that all students 16 and 17 years old will not be participating in any training activities that have been declared hazardous by the Secretary of Labor. According to Wage Hour Publication 1330, these hazardous occupations include:

1. Manufacturing and storing explosives.
2. Motor vehicle driving and outside helper.
3. Coal mining.
4. Logging and sawmilling.
5. Power driven woodworking machines.
6. Exposure to radioactive substances.
7. Power-driven hoisting apparatus.
8. Power-driven metal-forming, punching, and shearing machines.
9. Mining, other than coal mining.
10. Slaughtering, or meat packing, processing or rendering.
11. Power-driven bakery machines.
12. Power-driven paper-products machines.
13. Manufacturing brick, tile, and kindred products.
14. Power-driven circular saws, band saws, and guillotine shears.
15. Wreaking, demolition, and ship breaking operations.
16. Roofing operations.
17. Excavation operations.

Approvals

Business Sponsor	Date
Trainer	Date
Student	Date
Parent or Guardian	Date
School Administrator	Date

Vocational Options Project

"Community-Based Instruction Opens Doors to Supported Employment"

September 21, 1990

Mr. James Bundick
U.S. Department of Labor
Wage and Hour Division
3535 Market Street
Room 15210
Philadelphia, PA 19104

Dear Mr. Bundick:

The Vocational Options Project is a three year federally funded grant that has recently been awarded to the Rehabilitation Research and Training Center on Supported Employment at Virginia Commonwealth University. The purpose of the project is to provide community-based vocational training and supported employment to students with severe disabilities in the Richmond area. In order to comply with both the federal and state labor regulations during the term of this project, it is requested that the attached project description be reviewed and approved/revised to meet current labor regulations. A written confirmation from your department, of the Vocational Options Project's intent to comply with these labor laws would be appreciated.

Thank you for your time and consideration.

Respectfully,

Stacy K. Dymond, M.Ed.
Project Coordinator

Katherine J. Inge, M.Ed., O.T.R.
Project Co-Director

Description of the Vocational Options Project
Labor Law Regulations

A. Community-Based Instruction Program:

The Vocational Options Project in cooperation with Virginia Randolph School in Henrico Co., Virginia proposes to serve 36 students with severe disabilities, ages 16-22 over the next three years. Students selected for the program will receive vocational training in community businesses for six to eight hours a week, over a three month period. Training placements will rotate on a monthly basis so that each student receives training on three different job types during their involvement with the program. **Occasionally, placements may occur outside of the school day, however students will work no more than one hour before or one hour after the normal school day.**

Students participating in the community-based vocational training program will be considered **trainees** and will not be paid for their work experience. The Vocational Options Project and Virginia Randolph School proposes to meet the U.S. Department of Labor's guidelines for a non-employment relationship in the following manner:

Issue #1: **The training, even though it includes actual operation of the facilities of the employer, is similar to that which would be given in a vocational school.**

Comments: Students with severe disabilities frequently have difficulty using the vocational skills they learn in the classroom in real work environments. By participating in community-based instruction, students are able to learn a variety of job skills and develop employment interests based on real work experiences.

The same training strategies that would be used within a vocational school will be utilized on the vocational training sites. For instance, specific Individualized Educational objectives will be developed for all students participating in the program and documented in their school records. All job duties selected for training will be task analyzed and systematically instructed with daily data collection to determine a student's ability to perform the job skills. This data will be used to demonstrate that an "employment relationship" does not exist between the student and the employer during the training phase of this project. All documentation will be available for review by the DOL as requested.

Issue #2: **The training is for the benefit of the trainees or students.**

Comments: The purpose of the community-based instruction program is to teach students appropriate social, vocational, and related work skills. Research has shown that students who receive community-based vocational instruction while they are in school are more likely to obtain a job following graduation. All personnel responsible for training the students will ensure that the businesses understand that students are not to perform regular employee duties or other work that may not usually be completed on the job site that would benefit the company. Vacant positions also will not be filled with nonpaid student labor.

Issue #3: **The trainees or students do not displace regular employees, but work under their close observation.**

Comments: Students will work one on one with an instructor from the Vocational Options Project and shadow the regular employees. Training jobs will be developed at each site which match the students' vocational interests and training needs. Regular employees at the work site will continue to perform their usual jobs and may assist in the training process.

Issue #4: **The employer that provides the training derives no immediate advantage from the activities of the trainees or students; and on occasion his operations may actually be impeded.**

Comments: Students will receive training on actual job skills as well as social, behavioral, and related skills. Due to the students' level of disabilities, the variety of work skills being targeted for instruction, and the relatively short period of the training placement (four to six weeks at each site), it is extremely unlikely that any employer would receive immediate advantage from the activities of any student. However, the trainer will remove any student from a site as soon as data indicates that a nonemployment relationship no longer exists.

Issue #5: **The trainees or students are not necessarily entitled to a job at the conclusion of the training period.**

Comments: Although the Vocational Options Project intends to place students that have completed the community-based instruction program into supported employment placements, employers will not be obligated in any manner to offer the student trainee a job at the completion of the training program. For many students, the training site may be an unrealistic job site due to the student's job preferences, distance of the

job site from the student's residence, lack of transportation or available positions at the work site.

Issue #6: **The employer and the trainees or students understand that the trainees or students are not entitled to wages for the time spent in training.**

Comments: Prior to the placement of any student at a vocational training site, the student, business sponsor, parent/guardian, RRTC instructor, and school representative/administrator will read and sign the **Community-Based Vocational Training Agreement.** This agreement specifies the conditions of the training program and states that the student will not be paid for their work experience (See enclosed form).

In addition, the agreement states that all parties will adhere to the guidelines that govern a nonemployment relationship, and that all 16 and 17 year olds will not receive training in those occupations declared hazardous by the Secretary of Labor. If at any time during the training period any one of the guidelines fails to be met for any student, the student will be removed from the training site.

Challenging Behaviors in the Work Place: Increasing One Student's Access to Community-Based Vocational Instruction Using A Changing Criterion Design

Katherine J. Inge Stacy Dymond

Challenging Behaviors in the Work Place: Increasing One Student's Access to Community-Based Vocational Instruction Using a Changing Criterion Design

Studies from Washington, Colorado, Vermont, Virginia, Nebraska, and Illinois have indicated unemployment rates from 42-88% for students with disabilities (Wehman, Moon, Everson, Wood, & Barcus, 1988). McDonnell, Wilcox, and Boles (1986) in a nationwide survey of educational, vocational, and residential administrators for individuals with severe disabilities revealed that the prevalent placement upon graduation for this group of individuals has been work activity centers and sheltered workshops. More recently, Wehman (1992) reported that persons with severe and profound mental retardation constitute only 12.2% of all persons with mental retardation placed nationally in supported employment. **This data clearly indicates that unemployment for youth with severe disabilities is a national problem.** What can be done to ensure that work is the expected outcome for students with severe disabilities upon graduation?

It has been suggested that special education programs which include community-based instruction can make a difference in the employment outcomes of students with severe disabilities (Wehman, Kregel, & Barcus, 1985). Community-based instruction has been defined as:

"the type of [training] that uses the facilities, materials, persons, and/or tasks within a business to teach and assess students' work and related tasks. In this sense, the actual business environment is considered an extension of the classroom. Teachers, counselors, and support staff perform their instructional and evaluation roles within the context of these business environments." (Pumpian, Shepard, & West, 1988, p.177)

Community-based vocational training provides functional skills training in an integrated business setting, addressing the production, quality, and social demands of the natural work environment. The first major component is assessment of the local labor demands to determine the employment trends and to identify of current and future job openings (McCarthy, Everson, Moon, & Barcus, 1985). Once these have been determined, job training sites can be established in businesses.

Training in a real work environment is particularly important for those students with severe disabilities, because they do not generalize work skills learned in segregated school programs to community sites (Wehman, 1993; Sailor & Guess, 1983). Due to this inability to generalize from one setting to another and to difficulties in learning new skills, the student with severe disabilities must be increasingly exposed to community-based training as he or she progresses through the school program (Renzaglia & Huchins, 1988). The more difficulties displayed in skill transferral by an individual, the more he or she can benefit from instruction in the natural or community environment (Ford, 1983).

Although community-based instruction has been identified as a needed curriculum component for students with severe disabilities, many school systems continue to exclude students with the most significant disabilities. The presence of challenging behaviors may be one of the reasons that teachers hesitate to take some students into the community (Inge,

Wehman, et al., 1992). Issues of concern include the safety of the teacher, employees, as well as the student if he/she becomes "uncontrollable" on a job site and liability for damages to individuals or the environment. The simple solution, in some instances, is to continue training within the school setting rather than provide the much needed exposure to community work experiences.

The purpose of this article is to describe the use of a changing criterion design to address one student's challenging behaviors at community-based vocational training sites. A changing criterion design demonstrates the effect of a contingency by showing that a behavior changes based on a specified criterion (Kazdin, 1980). The design requires that an initial baseline of performance be established which serves as the foundation for a first performance criterion (Inge, Moon, & Parent, 1993; Kazdin, 1980). In order to obtain access to a specific reinforcer, the individual must meet the established criterion. As he/she meets or exceeds the criterion, performance demands are increased until the end goal is achieved. The supported employment literature has demonstrated that a changing criterion design can be used to effectively increase a consumer's production rate (Bates, 1989; Inge et al., 1993; Moon, Inge, Wehman, Brooke, & Barcus, 1990). This study expands this work by demonstrating that the design can be used to gradually increase the time a student successfully participates in community-based vocational training without engaging in challenging behaviors.

Method

Participant

One student, Bobby, who was assessed as having severe mental retardation and a secondary diagnosis of autism participated in this study. Bobby had a long history of challenging behaviors to include running away from his teachers, laughing inappropriately,

vocalizing to himself, and "throwing his body." Throwing his body was defined as quick, forceful movements forward at the waist involving Bobby's head, shoulders, and trunk. Bobby was referred to the Vocational Options Project for community-based instruction by his teacher and the school principal of a local segregated school for individuals with severe disabilities. The project was funded by a federal grant and operated out of the Rehabilitation Research and Training Center on Supported Employment at Virginia Commonwealth University.

Bobby was 21 years old with an IQ of 36 as measured by the Stanford-Binet Intelligence Scale. His teacher described him as rarely interacting with others appropriately and physically aggressive with self-stimulatory behaviors. Mellaril was prescribed for these behaviors. It was also noted that Bobby had a great deal of difficulty with change in his routine and required daily consistency to be successful. His strengths were that he had good fine and gross motor skills, and he was able to speak in unclear sentences. Bobby's vocational program had included working on cleaning tasks and collating, stapling, and folding paper within the school building. He had also been included in a janitorial crew that received training at a residential facility for emotionally disturbed youth.

At the time of the program, Bobby lived at home with his mother who had chronic mental illness and who received services from the local mental health program. He had participated in a respite care program on weekends as a relief service for the mom prior to referral to the Vocational Options Project. However, due to Bobby's many behavior problems, the local respite care program had discontinued him from services.

Trainer

The teacher/trainer for this study was the coordinator for the Vocational Options Project. She had 3 years teaching experience in the classroom working with students with severe disabilities. In addition, she had recently received a Master's degree from Virginia Commonwealth University with a focus in supported employment.

Phase 1: Initial Training Placement with The Vocational Options Project

Initially, Bobby was placed at a hotel folding laundry and cleaning a small vending machine area from 12:45 - 2:45 p.m. on Monday, Tuesday, Wednesday, and Thursday for his community-based training. A structured instructional program using a time delay strategy with a physical prompt (Moon et al., 1990) and reinforcement schedule were developed for him, however within 5 days of placement the teacher-trainer reported uncontrollable behaviors. These included running from the instructor and laughing, clinging to her arm, and running to the pool area of the motel. Figure 1 shows the graph for Bobby's on-task behavior during this time period at Howard Johnson's.

A behavior management programs was implemented in an attempt to keep Bobby at the training site. This included a differential reinforcement of other behaviors strategy using checks that earned edible reinforcement. The data showed that Bobby was only on-task for 5% of his training session by day 5 of his community experience. His behaviors included the following:

- **swinging his body against the motel stair railings,**
- **running down the guest corridors,**
- **screaming,**
- **climbing on cars in the parking lot, and**
- **physically resisting instruction.**

Project staff met, discussed the problem, and determined that the behaviors had escalated to a level that could result in physical harm to the trainer and/or Bobby. It was decided that he must be removed from the training site. A brainstorming session generated the following possibilities for consideration in designing a new program and training experience for Bobby.

Results of Brainstorming Session

1. Possible Reasons for Challenging Behaviors

- Bobby did not know the trainer and did not find her reinforcing.
- Bobby was having difficulty adjusting to his new routine.
- He did not like the training site.
- He did not like folding towels and/or cleaning the vending machine area.
- The vending machine area was distracting because of its physical proximity to the motel corridors and pool.
- Intensive one-on-one instruction in a strange environment was too demanding.
- Time of day (immediately after lunch) may be problematic.
- Length of training session may be problematic.
- Bobby was engaging in these behaviors to get attention.
- He was responding negatively to the training strategy of time delay with a physical prompt.

2. Program Considerations for Ensuring Bobby's Success

- Increase reinforcement and decrease demands initially to establish the trainer as a "reinforcer".
- Initially decrease the length of time that Bobby had to engage in one-on-one instruction. Gradually increase the time period as he becomes productive.
- Select a small (controlled) work area.
- Select a job that Bobby could complete sitting down vs. standing/moving in the environment.
- Change time of day to first task of the morning.
- Select a familiar environment for instruction so that Bobby could "get to know" the trainer. Begin with an in-school training period for one-to-one vocational training. Return to the community as soon as a new training strategy was designed.
- **Focus on identifying reinforcers in the community for Bobby.**
- Eliminate verbal instruction and eye contact when challenging behaviors occur.
- Collect data for on-task behavior and change/modify program based on Bobby's performance.
- Continue to brainstorm on a regular basis and include teachers, trainer, program director, etc.

In-School Training

The first step after the brainstorming session was to initiate instruction for Bobby within the school complex. (Table 1 outlines the various steps that were taken to modify Bobby's program during his initial training phase with the Vocational Options Project.) The decision to return to school was based on two factors. First, it was necessary to immediately break the negative training cycle that was occurring between Bobby and the instructor at the job site. Secondly, by returning to school, the trainer could work with Bobby in a familiar environment and provide one-on-one training while designing a new instructional program for returning to the community. This was seen as the better alternative to discontinuing training until a new program could be developed. **Returning to the school environment was not seen as a necessary step to get Bobby "ready" for the community.**

The community-based instructor identified several training activities for Bobby to complete at school to include wiping down the vending machines, washing windows, cleaning tables, and sweeping the sidewalks. Time of day was changed to the first activity of Bobby's morning and training time was decreased to 30 minutes. The primary objective was to provide time in a **familiar environment** for Bobby to adjust to the trainer/teacher. During the school-based training period, the instructor also changed her systematic instruction procedure from physical assistance on time delay to a system of least prompts. It was felt that Bobby did not respond well to the more intrusive physical assistance. Figure 1 shows that Bobby's on-task behavior increased across an eight day period to 90% on day 13 of his first training experience.

At this point, it was decided that the new instructional procedures appeared effective, and Bobby should begin to resume his training in the community. A brainstorming session resulted in the decision to combine in-school instruction with the community component. Bobby would receive 2 hours of training, daily, beginning as soon as he arrived at school. Initially, he would start work in this familiar environment, since he seemed to have the greatest amount of difficulty initiating activities with the trainer. Near the end of the 2 hours, Bobby and the trainer would leave school and finish the session at Howard Johnson's.

Initially, the plan called for Bobby to stay at the hotel and work for only 5 minutes. As he was successful (with no occurrence of the behaviors), this time period would be increased by 3 - 4 minute increments. It was projected that a gradual increase in time spent in the community would result in Bobby's success with his vocational program. The data in Figure 1 indicate that Bobby's on-task behaviors began to decrease as the training moved from school to include community programming. On day 14 of his program, Bobby was on- task for approximately 75% of the five minute training session. Day 15 shows a decline to 50% on-task behavior during a 12 minute training session. By day 18, the trainer was unable to get Bobby in her car to go to the community training site.

This refusal to work coincided with the end of Bobby's first training experience, since the employer had agreed to provide a vocational training site for an eight week period. At this time, it was decided that a new strategy was needed in order for Bobby to be successful in community-based training. Several issues were discussed during a planning session for Bobby to include the following:

Program Considerations to Increase Bobby's Community Access

1. Bobby now associates the community-based trainer with work (something he does not like to do). The trainer and Bobby need to develop a positive relationship with no demands for work performance placed on Bobby.

2. Although changes were made in his instructional program, the tasks remained the same at the hotel training site. A new site needs to be developed with different job types/ responsibilities.

3. Intensive one-on-one instruction needs to be reduced from the current 2 hour block of time. Reduce interaction with community-based instructor to 1/2 - 1 hour maximum.

4. Initiate a training period that focuses on identifying/developing community reinforcers for Bobby. Currently, he does not appear to enjoy community access or activities.

After this discussion, a decision was made to discontinue vocational training for a six week period and substitute community instruction in non-demanding "fun" activities. This time period would allow the trainer to identify community activities that could be used as reinforcers during later vocational training.

Phase 2: Community-Based Training

During this phase of instruction, the primary objective was to provide successful experiences within the community while placing limited demands on Bobby. In other words, the main requirement was for him to stay within close physical proximity to the trainer without clinging to her body, throwing his body, or running from her. Tasks focused on low demand activities that could provide an element of fun in order to build a rapport between the trainer and Bobby. Initially, he was only required to remain with the instructor for brief periods of time (i.e., 5-10 minutes) in the grocery store. As Bobby became successful in

staying with the trainer, the number and type of community training sites were expanded as well as the number of demands to participate in the activity. Gradually over the course of six weeks, he began to participate in shopping, going to fast food restaurants, and using the post office. Whenever Bobby began to get excited or laugh inappropriately, the trainer was able to calm him down by looking at him and speaking a few words (i.e., "settle down Bobby" or "do you want to stay here?"). At the end of the six-week period, it was determined that Bobby was able to remain with the trainer in a community setting for up to 30-45 minutes and participate in activities without engaging in challenging behaviors. Some of the activities that were focused on during this community training included the following:

Morning Schedule: 7:30 a.m.

Tasks:

- Waiting in grocery line
- Putting items on checkout counter
- Paying for items
- Waiting for change
- Browsing in stores
- Sitting quietly in a fast food restaurant
- Eating a snack
- Using a self-serve soda machine
- Posting a letter
- Crossing the street

Throughout this phase of community-based instruction, the trainer kept a diary of anecdotal notes on Bobby's behavior. Below is an excerpt from this diary. In addition, a summary of his performance in this phase of training can be found at the end of this article in Table 2.

12/21 - Ukrops Cafe - 30 minutes: *Another super day for Bobby! I asked him what he wanted to get for breakfast before we left his house, and he said "sausage biscuit." It was raining today so it was hard to spend much time looking for cars before we crossed the road. Bobby waited in line for 4 minutes before placing his order. With a cue "what do you want?" from me (not the store person) Bobby was able to say sausage biscuit. When we got to the drink section, Bobby said he wanted a soda. (O.J. and milk were in front of him along with cups for soda/coffee. Soda/coffee were on the other side of the wall out of view. Bobby was able to request something he couldn't see!) He needed assistance using the self-serve drink bar. I physically assisted him to press his cup against the ice dispenser and coke. (He wanted to use his finger to push the lever). It took Bobby about 20 minutes to eat breakfast. Most of the time was spent drinking the soda and chewing all of the ice in the container. Half-way through eating (he was done with the biscuit and just working on his drink), he started to laugh loudly. I asked him if he was ready to go, and he quieted down immediately and remained quiet for the rest of the time we were there. When we got back to school, Bobby did something he's never done before. We've been working on locking my car door. He usually remembers to push the button down, but always forgets to hold the handle up when we close the door. I started to redirect him back to fix the door when I noticed that he'd done it correctly before I had gotten around to his side of the door! How Exciting!! I used gestures and some physical assistance to teach that skill.*

Phase 3: Community-Based Vocational Training at Hechingers

Setting, Time, and Training Tasks

A training placement at a large hardware store, Hechingers, was identified as the next vocational training placement for Bobby. This site was selected, since the manager was extremely supportive of the Vocational Options Project and had already supported several students at his work site. In addition, the manager was receptive to having Bobby at Hechinger's with the understanding that he had numerous challenging behaviors and would be receiving training primarily on increasing his ability to remain in a community environment. The employer agreed to have Bobby work beginning at 9:45 a.m. on Monday,

Tuesday, Thursday, and Friday. The employee who was normally responsible for maintaining the bathrooms continued to perform this function in order to meet the Department of Labor's regulations for a non-paid work experience.

Training tasks included cleaning the men's and women's bathrooms to include wiping the sinks, counters, mirrors, urinals, toilets, and mopping the floors. The bathrooms were targeted, since the instructor felt that she would have better control over Bobby's behaviors in a small enclosed work environment. For instance, by positioning herself between Bobby and the door to the bathroom, she was able to prevent him from running out of the room. This was in contrast to his previous community experience at Howard Johnson's where he could easily move about in large work areas and "escape" the environment.

Implementation of the Changing Criterion Design

1. Measurement and Recording Procedures

The first decision made for instruction was to control the time period that Bobby remained on the training site. It was felt that this must be short to ensure job success. In other words, initially Bobby would only be required to remain on the site and work as long as he could perform his duties without throwing his body against the trainer, walls, and/or floor; screaming loud enough to he heard outside of the bathrooms; or body rocking while refusing to work. On the first day of training at Hechinger's, a stopwatch was used to determine an initial baseline of performance. Bobby remained on-task for 10 minutes before he began to engage in excess behaviors. This baseline data was used to set the first criterion for reinforcement in Bobby's program.

2. Changing Criterion Design

A changing criterion design was used to gradually increase Bobby's time on site. His initial baseline of performance, 10 minutes, became the foundation for a first performance

criterion. In order for Bobby to obtain access to a soda at the end of his work period, he was required to remain on site working for 10 minutes. The trainer set a timer for this time period and told Bobby that he must work until the bell rang in order to go to McDonalds. Since he had participated in the non-vocational training phase, she knew that this was a preferred activity for Bobby. During the ten minutes of work, Bobby earned 1 coin for each item in the bathroom that he cleaned. His money was placed in a container where Bobby could see it, and the money was given to him at the end of training.

Bobby was allowed to take a one minute "sit down" break to regain control if he began to display challenging behaviors. The trainer directed him to a chair in the bathroom while suggesting that he "take a break". At the end of one minute, she prompted him to return to work. As long as Bobby did not use more than 3 sit down breaks during a training session, he was able to take his money and go to McDonalds before returning to school. If he was unsuccessful in meeting the 10 minute criterion, he was given the money earned but was not allowed to buy a soda. Table 3 provides the instructional program for the Hechinger's training placement.

The second criterion level was implemented when Bobby met the first criterion for 3 consecutive days without interfering behaviors. The time on site was increased to 12 minutes. Once this criterion was met for three consecutive sessions, the criterion increased by another two minutes to 14 minutes. Three successful days at 14 minutes, and the employment specialist increased the time to 16 minutes and so forth. The objective for increasing time-on-site by 2 minutes remained in place for nine of the 16 criterion levels.

On day 20 of training, the instructor began to increase the criterion by 4 minutes rather than 2. After 28 days on-site, the trainer began to change the criterion every two days by

6 additional minutes rather than 4. Finally, the criterion was increased by 6 minutes every day by level 13 until Bobby was able to stay 1 hour and 20 minutes on the job.

3. Results

Figures 2 and 3 show how time at Hechinger's was increased gradually. Bobby remained at this training site for a total of 43 days and met the final criterion of one hour and 20 minutes of work performance without engaging in challenging behaviors. Throughout the training phase, Bobby always met his daily criterion and earned his soda at McDonalds. In all, 16 criterion changes were made in Bobby's program during his training at Hechinger's. As the graphs indicate, he worked the exact amount of time for which the timer was set. Bobby watched the timer and stopped work when it indicated that he was done for the day. He did work one session for 2 minutes longer than the criterion on day 42 of the program. Table 4 provides a summary of Bobby's community-based experience at Hechinger's.

Phase 4: Community-Based Vocational Training at Burlington Coat Factory

Setting, Time, and Training Tasks

At this point in Bobby's training, it was felt that he needed to experience a different job type other than janitorial activities. An instructional site was identified for him at Burlington Coat Factory which is a large discount clothing store that sold a variety of merchandise. Bobby's work area was located on the warehouse portion of the store where 3-4 employees were responsible for unpacking merchandise, packaging items for sale such as hanging clothes on hangers, and pricing the stock. Although the area was open and large, the instructor felt that Bobby would be able to adjust to the environment, since he would be able to sit down while completing most of his assigned tasks. In addition, the large boxes

of stock in the warehouse tended to divide the space into natural work areas such as the section where clothes were hung on their hangers. Bobby's work hours were 9:45 a.m. to 11:45 a.m. on Monday, Tuesday, Thursday, and Friday. His new job duties included emptying boxes of clothes, putting clothes on hangers, removing plastic bags from the clothes, opening packages of cloth napkins, and folding the napkins.

1. Measurement and Recording Procedures

On the first day of training at Burlington Coat Factory, the trainer set a criterion of on-site time as 1 hour and 20 minutes which was the length of time that he had been successful at the Hechinger's site. The program plan stipulated that this would be used as the baseline criterion unless Bobby was unable to remain on site for this length of time. If he had engaged in his challenging behaviors, the initial time he spent at Burlington would have been decreased and then gradually raised from that point. A stopwatch was used to determine how long Bobby remained on-task each day. However, Bobby was able to remain on the site the first day for 1 hour and 20 minutes, and this time period became his first criterion level at Burlington.

2. Changing Criterion Design

As at the Hechinger's site, a changing criterion design was used to gradually increase Bobby's time on site. In order for Bobby to obtain access to a soda at the end of his work period, he was required to remain on site working for 1 hour and 20 minutes. The trainer set a timer for this time period and told Bobby that he must work until the bell rang in order to go to McDonalds. By this point in Bobby's training, he no longer required the intensive delivery schedule of money for every task completed. Instead, the trainer was able to give

him his soda money at the end of the training period prior to going to McDonalds. The one minute "sit down" break procedures continued which allowed Bobby to regain control if he began to display challenging behaviors.

The second criterion level was implemented based on Bobby's remaining on the job site for one hour and 20 minutes for 2 consecutive days without interfering behaviors. The time on-site was increased by 5 minutes as he met his pre-determined criterion. This increase in time on-site remained consistent throughout Bobby's time at Burlington Coat Factory for a total of 14 training days. The program objective for criterions one and two required Bobby to remain on-site at the pre-determined level for two consecutive days before increasing his work time. However, program objectives for criterions 3, 4, 5, and 7 were increased by 5 minutes more than the previous day if Bobby had been successful without any occurrences of challenging behaviors. Table 5 outlines his instructional program for this community-based period.

3. Results

Figure 4 provides a graph of Bobby's on-task performance at Burlington Coat Factory. During his time there, he successfully met each criterion that was established for a total of 8 changes. Time on-site increased from the initial criterion to one hour and 25 minutes, one hour and 30 minutes, one hour and 35 minutes, one hour and 40 minutes, one hour and 45 minutes, one hour and 50 minutes, one hour and 55 minutes, and two hours consecutively. Throughout the training, Bobby was always successful in earning his soda break in the community and was able to return from his "sit down" breaks without prompting from the instructor. As noted in the graph, Bobby did not exceed the criterion on any trial during his

training at Burlington Coat Factory. Table 6 provides an overview of Bobby's experience at this job site.

Discussion

In reviewing this case study, it is critical to discuss the continual brainstorming sessions and subsequent program revisions that led to Bobby's eventual success in community-based instruction. The instructor persisted in identifying reinforcers, changing instructional procedures, modifying expectations, and changing training sites until Bobby was able to respond to training for a two hour block of time on a community job site. It is felt that there were several key factors that led to Bobby's success with the Vocational Options Project. First, the trainer was able to identify a **community** reinforcer which was the soda break at McDonalds. Bobby learned to associate work with earning money that he could use to have access to a preferred activity.

The other critical element of this program was the gradual increase in expectations that occurred during Bobby's time at Hechinger's and Burlington Coat Factory. All too often, trainers/teachers set objectives that students are unable to meet which subsequently results in failure and denied access to reinforcement. In this case, the initial criterion was minimal...only **10 minutes** of work resulted in the soda break at McDonalds. The trainer then increased the requirements very slowly (i.e., 2 - 5 minutes) to ensure that Bobby was always able to meet the objective. It is possible that once Bobby began to be successful that the trainer could have increased the criterion more rapidly. However, a team decision was made to continue using the very gradual increases rather than take a chance that Bobby would fail to meet a daily criterion.

In this case study, Bobby was always successful in meeting his criterion, and he learned to rely on the timer as a prompt to help him meet his goal for reinforcement. It should be mentioned however, that criterion levels would have been decreased if he had encountered problems. For instance, if Bobby had been unable to meet a specified criterion for two consecutive days, the time would have been lowered in order for him to experience success.

When using a changing criterion design strategy, teachers should not become discouraged if their students do not respond as successfully as in this example. Again, constant monitoring of the program data will provide information regarding the changes in the criterion levels. It is hoped that Bobby's case study example will provide guidelines and ideas for other students who previously have been denied access to community-based instruction.

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Table 1: Instructional Program for Initial Training Phase at Howard Johnson's and School

Instructor:	Stacy D.
Training Site:	Howard Johnson's and School
Dates:	October 22 - December 7
Time:	12:45 a.m. Mon., Tues., Weds., and Fri.
Job Duties:	Folding Laundry (Sheets, Pillowcases, Washcloths) and Cleaning the Vending Machine Area (Cleaning the Vending Machines, Sweeping and Mopping the Floor)

Training Phase: Instructional Strategies

A. **Instructional Strategy:**

1. Laundry - Time Delay Initially Bobby will be given an instructional cue to begin the task, (i.e., "fold the pillowcase") followed immediately by physical assistance to complete all steps in the task analysis (zero second time delay). The trainer will assist Bobby to complete all steps in the task analysis using 0 second time delay for 25 trials. Once Bobby has completed 25 trials at 0 second time delay, the instructor will begin implementing a 3 second time delay across all steps of the task analysis. If the student does not perform the step, or performs it incorrectly during those 3 seconds, the instructor will back up to 0 second time delay on that step for the next 5 consecutive trials. This error correction procedure will be in effect until the student can perform the task independently. After Bobby is able to do a step independently with 3 second time delay for 5 trials, time delay on that step will increase to 5 seconds. Once he completes a step independently for 5 consecutive trails, time delay will increase to 10 seconds until all steps in the task are mastered.

2. Cleaning the Vending Machine Area - System of Least Prompts Unlike folding laundry, cleaning the vending machine area requires Bobby to complete a series of steps only once or twice each day, rather than repeatedly. Instruction for this task will be provided according to the system of least prompts (verbal, model, physical). After each prompt level the student will be given 3 seconds to respond before the instructor will proceed to the next prompt level.

B. **Reinforcement Schedule:**
Verbal reinforcement will initially be provided according to a fixed ratio of one. As Bobby acquires skills, reinforcement will shift to a variable ratio schedule, and eventually faded. Since the task analyses in the laundry are relatively short, and the instructional procedure is time delay, Bobby will be praised upon completion of each folded item. For jobs in the vending machine area, Bobby will be praised after each step of the task. In both instances, as Bobby acquires skills, verbal reinforcement will shift from a fixed to a variable ratio, and then gradually faded to what is available in the natural environment. An opportunity will also be available for Bobby to purchase an item from the vending machines at the end of work each day.

Table 1: Instructional Program for Initial Training Phase at Howard Johnson's and School (continued)

C. **Method of Data Collection:**
A single opportunity probe will be taken daily on each job skill. Data will be graphed weekly, and programs revised as necessary. In addition, data will be collected on the percent of time Bobby stays on-task. On-task behavior will be defined as any work related activity that Bobby partially or full participates in with the instructor.

Program Revision #1:

A. **Rationale:**

Probe data indicate that Bobby's skill acquisition during the initial training phase has remained at zero percent across most tasks involved with cleaning the vending machine area. In the laundry, Bobby is able to complete 20-50% of 2 of the 3 tasks. Although skill acquisition is higher in the laundry, Bobby appears to spend significantly more time on-task when he works cleaning the vending machine area than when he is stationed in the laundry room. Both are quite different environments in terms of noise, number of coworkers, size of workspace, and physical movement involved with the job. The vending machine area tends to be quiet, requires occasional contact with coworkers in the halls, is larger, has a more open workspace, and requires significant physical activity and movement. Although Bobby is beginning to show some skill acquisition, he spends approximately 25% of the 2 hour training period off-task. Off-task behaviors include:

1. Running from the instructor and laughing.
2. Putting the instructor's arms around himself or clinging to her arm.
3. Shaking the stair railing.
4. Walking around Howard Johnson's property. He especially likes the pool area.

B. **Instructional Strategy:**
The instructor will continue to implement the same instructional strategy as outlined above.

C. **Reinforcement Schedule:**

Instead of having 1 break and snack at the end of work, Bobby will be given the opportunity to earn snacks throughout the work period. Since he has indicated each day that he would like to buy peanut butter crackers from the vending machine, peanut butter crackers will be used initially for reinforcement.

Bobby will earn a check for working every 5 minutes. The instructor will make the check on her note pad, tear off the paper, and give it to Bobby. He will then trade in his check for a small piece of peanut butter cracker by handing the check back to the instructor. The purpose of this procedure is to teach Bobby that checks on a card represent earning a reinforcer. Gradually, he will be expected to collect his checks and "buy" the crackers at the end of the training session. A schedule for fading to the

Table 1: Instructional Program for Initial Training Phase at Howard Johnson's and School (continued)

middle and end of the session will be designed once Bobby remains on-task for 100% of his training period.

Bobby appears to engage in most of his off-task behavior at the beginning of work. It usually begins as soon as he gets to the worksite, or within the first 10 minutes of work. For this reason, Bobby will be given a check once the car gets to Howard Johnsons and another as soon as he walks to the laundry room to begin work. After Bobby has worked for the first half hour with 5 minute checks, the time needed to earn a check will increase to 10 minutes for the remainder of the day.

D. **Data Collection:**

Data collection will continue to be collected in the same manner as above.

Program Revision #2:

A. **Rationale:**

Although skill acquisition across all tasks appears to be stabilized or gradually improving, it is clear that Bobby has decreased dramatically the percent of time he spends on-task. In addition, the time he spends off-task is becoming more and more characterized by behaviors that are potentially harmful to Bobby, other people, and personal property. These behaviors include the following:

1. Shaking the railings on the stairs vigorously back and forth, swinging the body against the railing to move it.
2. Walking in the parking lot.
3. Running quickly down the corridors of the motel or on the sidewalks without looking.
4. Loud vocalizations, including occasional "screams."
5. Climbing on all fours on the instructor's car.
6. Hugging the instructor and clinging to her arms.
7. Looking in the windows of rooms that people are currently staying in at the motel (stands 5 feet from the window).
8. Physically resisting the instructor's guidance at some instructional times.
9. The distance that Bobby walks away from the instructor has increased. In addition, if we are in the building cleaning the vending machine area, and Bobby leaves his task, he will now go out the door and walk outside.

On the last day of implementing the previous strategy, the instructor attempted to give Bobby free checks just for walking to the instructor. During the hour that this procedure was used, Bobby only chose to pick up a check 2 times. On that day, he was off-task during almost all of the training period. Since his behaviors were potentially more harmful than previously to Howard Johnson's customers and Bobby himself, Bobby was removed from the site and brought back to school. When the instructor told him, "work is done, let's get in the car," Bobby willingly walked to the

Table 1: **Instructional Program for Initial Training Phase at Howard Johnson's and School** (continued)

instructor's car and got in by himself. Bobby and the instructor then returned to school and worked together cleaning windows on the school premises for the remainder of Bobby's training period.

B. **Instructional Strategy:**

Based on consultation with Bobby's teacher, mother, the school principal, and Vocational Options staff, it has been decided that Bobby will be **temporarily** removed from the Howard Johnson's training site. He will still receive 2 hours of vocational training from his instructor, however this training will take place at school. Bobby has experienced difficulty in the past working with new people. It may be that he needs more time to get used to working with the Vocational Options' instructor, in an environment that is more familiar to him. Jobs targeted at school will be similar to those at Howard Johnson's. They will include wiping down the vending machines, washing windows, cleaning tables, and sweeping the sidewalks.

Changes will also be made in the instructional procedures used to teach Bobby. Since he has shown increased resistance to physical assistance, all tasks will be taught according to the system of least prompts. If Bobby requires physical assistance and becomes resistive when the instructor is providing the assistance, the instructor will ask Bobby "can I help you?" She will not assist Bobby until he is ready and says "yes." This technique has been tried a couple of times and seems to have worked well.

If during the training period Bobby begins to engage in any off-task behaviors, the instructor will wait for him to settle down. During periods of off-task behavior that Bobby looks at the instructor or begins to walk toward his work, the instructor will provide short cues to redirect him to his work (i.e., "Ready to get started?," "I'm glad you're coming back.") The instructor will keep Bobby in sight at all times (except in the bathroom) and will verbally praise him for coming back to work.

When possible, the instructor will try to anticipate the off-task behavior by telling Bobby that it's almost time for a break, or by asking him if he needs to take a break. In an effort to give Bobby more control over his environment, he will also be taught how to ask for "help" or the "bathroom."

Bobby will be gradually faded back into the Howard Johnson's site. He will begin instruction as usual at the school and then will finish with training at Howard Johnson's. At first, Bobby will only be required to stay at the hotel for 5 minutes. Gradually time spent at Howard Johnson's will be increased by 5-10 minute increments until he is capable of spending the entire 2 hours at the training site.

C. **Reinforcement Schedule:**

Bobby will continue to receive verbal reinforcement during actual work periods, along with occasional pats on the back. In addition, during the training period at school, a reinforcer survey will be conducted to determine Bobby's preferred snacks. The

Table 1: Instructional Program for Initial Training Phase at Howard Johnson's and School (continued)

results of the survey will be used to target a variety of types of reinforcement for Bobby during his work breaks. Breaks will initially be available after ever 5 minutes of actual work. He will be prompted to say "break please" at the appropriate time, so that eventually he will learn to ask for a nonscheduled break when he needs one. Since both the behaviors of running and taking a break seem to serve the same function, it is hoped that Bobby will eventually learn the more appropriate way (asking for a break) of leaving his job.

As Bobby begins to spend more time on-task, the instructor will increase the amount of work time required to earn a break by 5 minute increments. Since past observations have shown that Bobby has more difficulty staying on-task at the beginning of his work shift, increased demands for longer work periods will initially be made near the end of Bobby's work time. As he re-enters the Howard Johnson's training site, breaks will drop back to 5 minute work intervals and will be gradually be increased in the same manner as before.

D. **Data Collection:**

Data will be collected on the number of minutes that Bobby spends off-task, the total time of the task, and the overall percent of time spent on-task. Data will also be collected and graphed on the results of the reinforcer survey. Once Bobby re-enters the Howard Johnson's training site, data collection will resume on the TAs.

Program Revision #3:

A. **Rationale:**

Bobby's time on-task has remained fairly stable. Though he still experiences considerable difficulty staying on-task at the beginning of his work period, once Bobby begins to work and receive reinforcement (snacks), his time spent off-task decreases. He will now gradually be phased back into the Howard Johnson's training site.

B. **Instructional Strategy:**

Bobby will continue to receive instruction according to the system of least prompts. His training will now take place at both the school and at Howard Johnson's. Since he spends more time on-task during the second hour of his training session, he will begin work at school, and then go to the hotel for instruction at the end of the training session. Bobby will initially work for 5 minutes. Time spent at Howard Johnson's will increase as Bobby continues to stay on-task at the site.

C. **Reinforcement Schedule:**

Bobby's schedule of reinforcement will remain the same at school. At Howard Johnson's however, he will be given a small amount of preferred reinforcer (i.e., candy

Table 1: Instructional Program for Initial Training Phase at Howard Johnson's and School (continued)

bar) after the completion of every couple of steps. For example, in wiping down the vending machines, he will receive an edible reinforcer after cleaning each of the 4 vending machines. Time spent at Howard Johnson's will gradually increase by 3 - 4 minutes each day that Bobby is successful. Reinforcement will be gradually faded as he continues to be successful at Howard Johnson's.

D. **Method of Data Collection:**

Data will continue to be taken on the percent of time Bobby spends on-task during training. This data will be calculated separately for each training environment (school and Howard Johnson's). Single opportunity probes will be taken on tasks that Bobby is performing at the hotel training site.

Program Revision #4:

A. **Rationale:**
Bobby has shown a dramatic decline in off-task behavior during the past 2 days but has remained on-task 100% at Howard Johnson's.

B. **Reinforcement Schedule:**

Since the reinforcement schedule employed at Howard Johnson's seems to be effective in keeping Bobby on-task from the start of his work time there, the same system will now be implemented at school, in order to increase his time on-task at the beginning of work at school.

Program Revision #5:

This program will be discontinued and Bobby will begin non-vocational community-based training for the next six week period.

Table 2: Summary of Bobby's Non-Vocational Community-Training Phase

Vocational Options Project

Student: Bobby
Instructor: Stacy D.
Date: January 25

Bobby's ability to remain on-task has increased dramatically during the past 6 weeks. At the beginning of the second training session, Bobby was only receiving community training for a short period of time (5 to 10 minutes) at 1 location (i.e., a grocery store). During that time, the only demand placed on Bobby was to remain with the instructor throughout the training. As Bobby became successful at this, the number and type of community training sites were expanded, and the amount of time spent in training and the number of demands placed on Bobby to participate in the activity were gradually increased.

Bobby really seemed to enjoy going out in the community. His biggest accomplishment during the past 6 weeks was learning to stay with me for increased periods of time. We seemed to have developed a much better rapport together. When Bobby started to get laughing or otherwise excited, I was able to calm him down by looking at him or by speaking a few words (i.e. "settle down Bobby" or "do you want to stay here?").

In addition to learning to stay with the instructor, Bobby also acquired several skills and made significant progress on others.

A. **Transportation** - Bobby was able to locate his seatbelt and independently fasten it the majority of the time. He needed physical assistance to lengthen the seatbelt to fit him. Once Bobby got out ot the car, he would remember to push the lock down and shut the door. Bobby would look both directions before crossing the road. He stayed with me at all times when we were outdoors.

B. **Shopping** - Bobby learned to independently pick up a basket each time we went into the grocery store. When I showed him a picture of the item we were going to purchase, he was almost always able to correctly label it. Once we were within 5 to 8 feet of the item, Bobby was able to independently go to the shelf, pick up the item, and put it in his basket. After we were finished shopping, I would give Bobby the money and coupons to pay for the items. Bobby had difficulty locating an open checkout line. He appeared to be absorbed in looking at the magazines on the checkout counter. Once we located an open checkout line, Bobby was able to wait in line for up to 10 minutes with occasional gestural cues. He would put the basket on the counter and take the items out of the basket with a gestural cue. Bobby was beginning to learn to give the cashier his coupons before he gave her his money, but usually required physical assistance to separate the two. By the end of the 6 weeks, Bobby knew when to hand the cashier his money and usually would wait for her to give him his change. With several verbal cues ("thank you"), he would tell the cashier "thank you" after she gave him his change. Bobby could independently carry the package but sometimes needed a gestural prompt to pick up the package after he had paid for it.

Table 2: Summary of Bobby's Non-Vocational Community-Training Phase (continued)

C. **Restaurant Usage** - Bobby could independently enter and exit the building. He required a gestural cue to locate a cashier to take his order and to find the end of the order line. Given a choice of 4 to 5 breakfast items, Bobby would always choose "sausage biscuits." One of the most exciting things Bobby learned to do was to place an order. Initially he would repeat what he wanted after me, while he was looking at me and while the cashier listened to us. Then he began to initiate saying what he wanted when I prompted him. "What do you want?" He would still look at me instead of the cashier. In the past few weeks, when I have redirected Bobby to tell the cashier what he wanted, he has begun to look at the cashier and place his order. He then will look back at me to make sure that he did it correctly. Bobby is also beginning to learn to use a self-serve drink bar. He still wants to use his hand to activate the dispenser, but with 1 quick physical prompt, he will hold his cup against the lever and fill his cup with soda.

D. **Post Office** - Bobby demonstrated the same ability to order items at the post office as he did at the restaurant. His purchasing skills (giving the clerk money, waiting for change, and saying "thank you") were similar across all environments. Bobby liked to put the letters in the mail slot and seemed intrigued with where they went. He was able to place a stamp in the correct location on an envelope but had difficulty wetting the stamp enough so that it would stick.

I have seen a dramatic change in Bobby during the past 6 weeks. He still seems to get upset/excited whenever demands (requests) are placed on him, but I think his tolerance for them is gradually increasing. It has been a joy to watch the changes in Bobby.

Table 3: Instructional Program for Community-Based Vocational Training at Hechingers

Instructional Program Plan

Instructor:	Stacy D.
Training Site:	Hechingers
Dates:	January 28 - March 8
Time:	9:45 a.m. Mon., Tues., Thurs., and Fri.
Job Duties:	Cleaning the men's and women's bathrooms (sinks, counters, mirrors, urinals, toilets, floors)

Behavioral Objective: Given work supplies, an instructional cue to begin work, and up to 3, one minute sit-down breaks, Bobby will remain on-task for 10 minutes with 0 incidence of challenging behaviors (i.e. clinging to the instructor, throwing his body, running away from the instructor, etc.). (Time on site will be increased as Bobby successfully meets criterion over three consecutive work days.)

Training Phase

A. Instructional Strategy: System of Least Prompts

Bobby will be given a verbal cue to perform each step of the task. If Bobby does not respond or responds incorrectly within 3 seconds on any step, the instructor will provide a gestural cue by pointing to the item that needs to be cleaned. If Bobby still does not respond or responds incorrectly, the instructor will physically assist him to complete that step of the task.

A baseline on the amount of time Bobby is able to stay on the job at Hechingers has been established at 10 minutes. Once he is able to remain working at the job site for 10 minutes across 3 consecutive days, his time will be increased to 12 minutes. The training period will be increased by 2 minutes each time Bobby is able to remain working at the job site for 3 consecutive days at the specified time interval.

If Bobby begins to vocalize loudly and/or physically throws his body, the instructor will ask him to go sit down. After 1 minute, Bobby will be prompted to return to work. If Bobby continues to remain on-task for the rest of the training period, the instructor will document that Bobby met the time criterion for that day. If, however, Bobby continues to vocalize loudly or throw his body beyond the 1 minute break period or requires more than 3, 1 minute sit down breaks, Bobby and the instructor will leave Hechingers for the day. The instructor will document that he did not reach the time criterion.

B. Reinforcement Schedule:

The instructor will set the timer for the specified work period once she and Bobby enter the bathroom. The instructor will work with Bobby until the bell rings. During this

Table 3: Instructional Program for Community-Based Vocational Training at Hechingers (continued)

time, he will earn one coin for each item that he cleans in the bathroom. The instructor will drop the coin into Bobby's money jar after he cleans each item. If Bobby is able to actively participate in the job for the entire time, he will earn enough money to buy a soda at a fast food restaurant at the end of work. Bobby will be allowed to take 3, one minute sit down breaks without losing his opportunity to buy a soda. If, however, he continues to vocalize loudly or throw his body after the 3rd break is terminated, he will leave Hechingers for the day. He will be allowed to keep the money he earned but will not be given an opportunity to purchase a soda. Bobby will also receive brief, intermittent verbal praise from the instructor (i.e., "good," "that's right".)

C. **Method of Data Collection:**

A single opportunity probe will be taken daily on each task. Data will also be collected on the amount of time Bobby spends working on the job site each day. All data will be graphed weekly and program plans revised as necessary.

Program Revisions

February 7 - Bobby has worked 3 consecutive days for 10 minutes. Time on the job site will increase to 12 minutes.

February 12 - Bobby has worked 3 consecutive days for 12 minutes. Time on the job site will increase to 14 minutes.

February 19 - Bobby has worked 3 consecutive days for 14 minutes. Time on the job site will increase to 16 minutes.

February 25 - Bobby has worked 3 consecutive days for 16 minutes. Time on the job site will increase to 18 minutes.

March 1 - Bobby has worked 3 consecutive days for 18 minutes. Time on the job site will increase to 20 minutes.

March 4 - Bobby's program to sweep the floor will be discontinued. The floor rarely has much dirt on it. Instead, Bobby will begin picking paper off the floor (when there is any) and mopping the floor.

March 7 - Bobby has worked 3 consecutive days for 20 minutes. Since he has adjusted well to the increasing time demands made on him, time increments will now change by 4 minutes instead of 2 minutes. As of this date, time on the job site will increase to 24 minutes.

Table 4: Summary of Bobby's Community-Based Experience at Hechingers

Vocational Options Project
Trainer Comments: Hechingers

Student: Bobby
Instructor: Stacy D.
Date: March 11

Bobby's job at Hechingers involved cleaning the men's and ladies' restrooms (sinks, counters, mirrors, urinals, toilets, and floors). Initially, Bobby was required to spend 10 minutes working at the job site. Once he was able to tolerate working at Hechingers for 10 minutes on 3 consecutive days, his time on the job site was increased to 12 minutes. Each time Bobby was able to work for 3 consecutive days at one time interval, his time was increased by 2 minutes. By the conclusion of the 6 week training program, Bobby was able to remain actively working on the job site for 24 minutes. He also spent an additional 10 to 15 minutes on the job site each day preparing for work, getting out and putting away his supplies, and preparing to leave the job site.

During work, Bobby was given an opportunity to earn a coin for each item that he cleaned. If he stayed on his job for the entire length of the training program or took one, 1-minute sit down break to calm down, he would earn enough money to purchase a soda at the end of the training period. Bobby earned a soda every day he went to work during the past 6 weeks. Purchasing a soda at a fast food restaurant seems to be very reinforcing to him. Although there were several soda machines in the break room where we hung our coats, Bobby never requested to get a soda from these machines. It may be that he had learned from our previous community-based instruction that we always go out for a soda, or it may be that he preferred going to a restaurant.

Bobby was able to independently place an order most of the time, wait for change, obtain a straw, and locate a vacant seat. He required a verbal prompt to find an open order line, look at the cashier when placing his order, pay for the item, and say thank you. Bobby always chose a seat by the window facing the direction of the street traffic. He has become much more relaxed in the restaurant and appears more observant of the people inside the restaurant and the cars going by outside.

Although Bobby was not able to independently clean any of the items in the bathrooms during the 6 week training program, he did learn to follow a sequence of job duties. He would independently locate the different cleaning supplies he needed for each task and move from one item to another (i.e. from the first sink to the second sink, and then to the first urinal, etc.) without prompts from the instructor. He also was able to independently put away his supplies.

Table 4: Summary of Bobby's Community-Based Experience at Hechingers (continued)

Bobby continues to be very dependent on physical assistance to complete each cleaning task. He is consistently able to pick up the correct supplies and begin spraying the spray cleaner, however he doesn't stop spraying until he is physically prompted to stop. On most tasks, Bobby begins wiping the item in the correct spot, but then looks to the instructor for assistance or wipes incorrectly. Bobby does well at sequencing the job. For example, with the toilet, he knows to pick up the toilet seat after it has been wiped, to put his rag on the back of the toilet and pick up the spray cleaner and toilet brush once the base of the toilet has been cleaned, to tap the toilet brush on the toilet rim after cleaning the inside of the bowl, flush the toilet, and move on to the next item. Bobby appears to have difficulty judging where to wipe with the rag. Wiping is not as concrete a skill as sequencing the steps in the task.

Bobby has become more relaxed, cooperative, and less vocal at the job site over the course of the training period. He seems to enjoy the routine. As Bobby's time at the job site increased, the number and types of items he was required to clean increased. This did not seem to bother him until we extended his duties to cleaning the women's restroom. The first day we started cleaning the women's room, Bobby became very vocal, but continued to participate by spraying the sink. Over the past three weeks, he had consistently sprayed his rag independently before cleaning an item. The change in routine seemed to confuse and upset Bobby. We remained in the women's room for the rest of his training time that day (only a few minutes) and have gradually increased the time that he spends cleaning the women's room. Bobby's vocalizations have decreased, and he now completes the tasks at the same skill level as in the men's restrooms.

Overall, Bobby has made drastic improvements in his ability to stay at a job site with an instructor, actively participate in a task, and respond appropriately to the increasing demands that have been made upon him. He also seems to be able to get better control of himself when he does get agitated and vocal. I have found that Bobby can usually be calmed down by looking at him and saying, "settle down" or " are you okay?" Sometimes just putting a hand on his shoulder, or stopping the physical assistance I am providing while pausing a few seconds will help. Bobby will generally look at me and say "yes please" or "work please". On rare occasions, I have asked Bobby to sit down in the chair we bring into the bathroom to settle down. Sitting down also seems to calm Bobby.

The Vocational Options Project will continue to work with Bobby during the next training cycle to increase both his time on the job site and independence at completing the job tasks.

Table 5: Instructional Program Plan for Burlington Coat Factory

Instructor:	Stacy D.
Training Site:	Burlington Coat Factory
Dates:	May 6 - June 7
Time:	9:45 a.m. - 11:45 a.m. Mon., Tues., Thurs, Fri.
Job Duties:	Emptying boxes of clothes, putting clothes on hangers, removing plastic bags from the clothes, opening packages of cloth napkins, and folding the napkins.

Behavioral Objective: Given work supplies and an instructional cue to begin work, Bobby will remain on-task with 0 incidence of challenging behaviors (i.e. clinging to the instructor, throwing his body on the floor or against the walls, running away from the instructor, etc.) with no more than 3, one minute sit down break for 1 hour and 20 minutes. (Time on site will be increased as Bobby successfully meets criterion over two consecutive work days.)

Training Phase

A. **Instructional Procedures:**

Training will be provided according to the system of least intrusive prompts. Bobby will be given a verbal cue to begin the task. If he does not complete a step of the task, the instructor will provide a verbal cue specific to that step of the task. If Bobby does not respond to the verbal cue within 3 seconds, or responds incorrectly, the instructor will provide a gestural cue. If Bobby does not respond to the gestural cue within 3 seconds, or responds incorrectly, the instructor will physically assist him to complete that step of the task.

Bobby's time on the job site will begin at 1 hour and 20 minutes based on his level of performance at the Hechingers job site. If Bobby is able to work at his new job for 1 hour and 20 minutes, his work time will gradually be increased by 5 minute intervals using a changing criterion design. If Bobby exhibits any serious behaviors at the job site on the first day, he and the instructor will leave the job at that time and this length of time will be used as a baseline. For instance, if Bobby begins to exhibit challenging behaviors after 30 minutes, he and the trainer will leave the site and the next day's criterion for working will be 30 minutes.

The same procedure will be implemented as with Bobby's prior training placements if he begins to vocalize loudly and/or throw his body. If Bobby begins to engage in either of these behaviors during the training period, the instructor will ask him to go sit down. Bobby will be prompted to return to work after 1 minute, or will be allowed to return to work earlier if he requests (e.g., "work please.") If Bobby requires more than 3 sit down breaks for vocalizing loudly and/or throwing his body, he and the instructor will leave the job site for the day.

Table 5: Instructional Program Plan for Burlington Coat Factory (continued)

B. **Reinforcement Schedule:**

Initially, Bobby will receive reinforcement after he completes every 2 steps of the task, regardless of the level of assistance required to complete those steps. Reinforcement will consist of eye contact, a nod of the head, or brief verbal comments (e.g., "Yes," "Good," "That's right"). Verbal comments will be delivered in a neutral tone, since this has seemed to have a greater calming effect on Bobby than comments made with varying voice inflection. Reinforcement will be gradually decreased as Bobby becomes more independent on the job.

Bobby will also receive a soda break at McDonalds following work each day. If Bobby leaves the work site early because he requires more than 3 sit down breaks for vocalizing loudly and/or throwing his body, he will not receive a soda break that day.

C. **Method of Data Collection:**

A single opportunity probe will be taken daily on each task. Data will also be collected on the amount of time Bobby spends working on the job site each day. All data will be graphed weekly and program plans revised as necessary.

Table 6: **Summary of Bobby's Community-Based Experience at Burlington Coat Factory**

Vocational Options Project
Trainer Comments: Burlington Coat Factory

Student: Bobby
Instructor: Stacy D.
Date: June 11

Bobby's position at Burlington Coat Factory consisted of emptying boxes of clothes, putting clothes on hangers, removing plastic bags from the clothes, opening packages of cloth napkins, and folding the napkins. Bobby increased his work time from 1 hour and 20 minutes to 2 hours by the end of the training program and was able to earn a soda at McDonalds each day that he went to work.

Bobby reached complete independence at opening packages of cloth napkins and folding the napkins. He was able to work for up to 30 minutes on this task when the instructor stood within 3 to 5 feet of the work station and provided brief, intermittent reinforcement. Each of the packages of napkins contained 4 prefolded (and creased) cloth napkins. Once a package was opened, Bobby would separate the napkins and refold each one individually. Bobby completed the task sitting down at a table. His work was slow, but steady.

Bobby also performed well at emptying boxes of clothes and removing plastic bags from the clothes. Emptying the boxes consisted of picking up clothes (that were already on hangers) from a box and hanging them on a clothes rack. Bobby would then tear the plastic bags covering each item and remove them from the garment. Bobby seemed to perform most of the steps to these tasks independently, however, because there were few opportunities to practice these skills, Bobby did not reach skill acquisition. Skill acquisition was defined as 3 consecutive days of completing the task independently.

One of the most difficult tasks that Bobby was required to perform was putting clothes on a hanger. Bobby was able to independently open the plastic bag that the item came in, pull the item out of the bag, and pick up a hanger. The problem with this task was that most of the items had necklines that were too small to put a hanger through. As a result, Bobby was taught to put the hanger in the bottom of the shirt and pull it up through the neck opening. Bobby required physical assistance to put the hanger in the shirt and straighten the shirt once it was on the hanger.

Two other tasks that Bobby performed when he finished work early were separating the hangers and taking out the trash. Bobby was able to pull hangers out of a big box and hang them on a rack according to the type of hanger they were (coat hanger, pants hanger). He required assistance to pick up several hangers at a time (he liked to pick up 1 at a time) and

Table 6: Summary of Bobby's Community-Based Experience at Burlington Coat Factory (continued)

occasionally needed to be reminded where each type of hanger went. When taking out the trash, Bobby needed verbal prompts to locate empty boxes and occasional physical assistance to stack the boxes on his cart. He was able to independently wheel his cart to the trash compactor, open the door, throw the boxes in, and shut the door. With a verbal prompt, Bobby would push the green button to activate the trash compactor.

Bobby continued to show improvement at Burlington Coat Factory in his ability to remain at the job site for longer periods of time. He also learned to complete a couple of tasks independently. Bobby seemed to perform best at sit down jobs, or standing jobs that required walking from work station to work station. When Bobby was required to complete a task standing in one place (such as with putting clothes on a hanger), he had a difficult time standing still. He would continuously walk within a 10 foot radius of his work station. Sometimes he would continue to work while he was walking, but frequently it disrupted his work.

Bobby was able to independently find his way to and from the bathroom, but needed assistance locating the warehouse once he entered the store and the exits upon leaving. Bobby initiated "bathroom please" during training each day. During the last couple of days of training, Bobby requested to use the bathroom continuously at work and became very insistent when told that he had already gone and that it was time to work. It was not apparent whether the function of the request was related to a health problem or task avoidance. Bobby did seem to enjoy spending time in the bathroom and would frequently look at himself in the mirror, laugh, and pace across the bathroom floor. Throughout training it was necessary to provide Bobby with a prompt to come out of the bathroom.

Bobby seemed to enjoy his job at Burlington and always asked for "work please" after taking a break for 10 or 15 seconds. He looked forward to going to McDonalds each day for a soda and was consistently able to order a "small sprite" loud enough that the cashier could hear him. Bobby was well liked by his coworkers and on 1 occasion even responded to one of them by saying " hello". It has been exciting to see Bobby's progress!

Figure 1: Time on Task for Initial Six Weeks
Vocational Training at Howard Johnson's and School

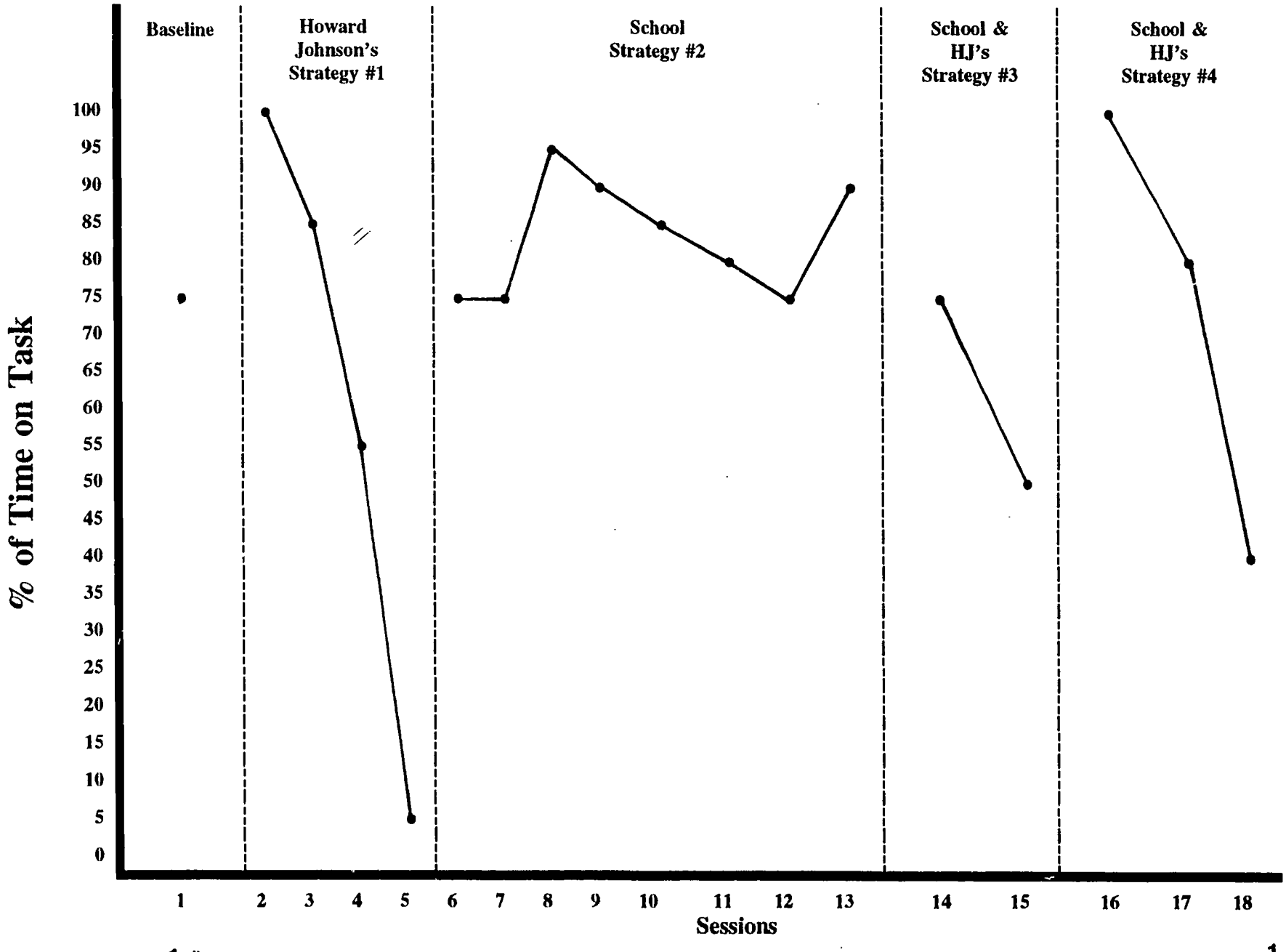


Figure 2: Time On Job Site Using A Changing Criterion Design

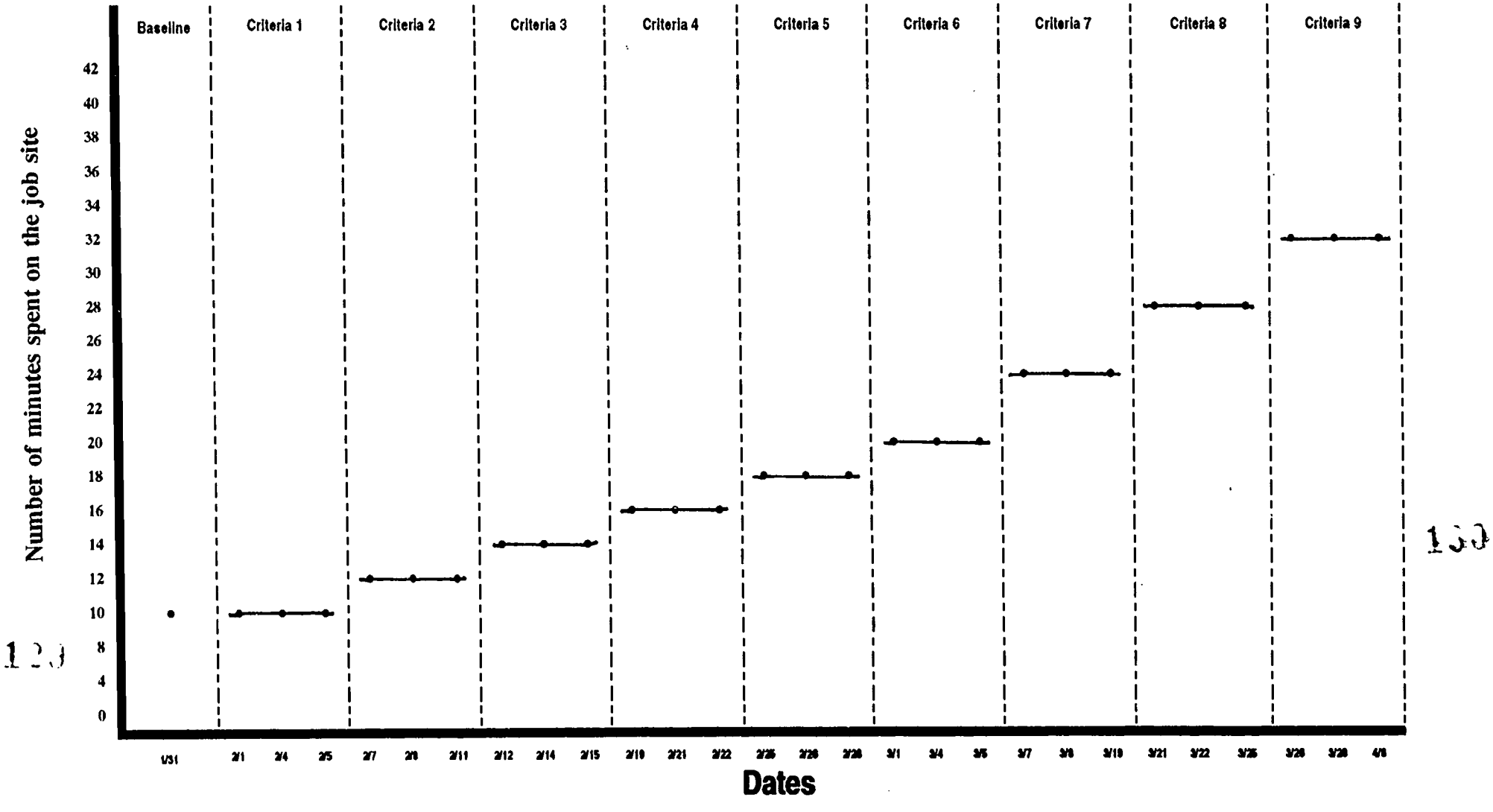


Figure 3: Time On Job Site Using A Changing Criterion Design

Bobby -- Hechingers

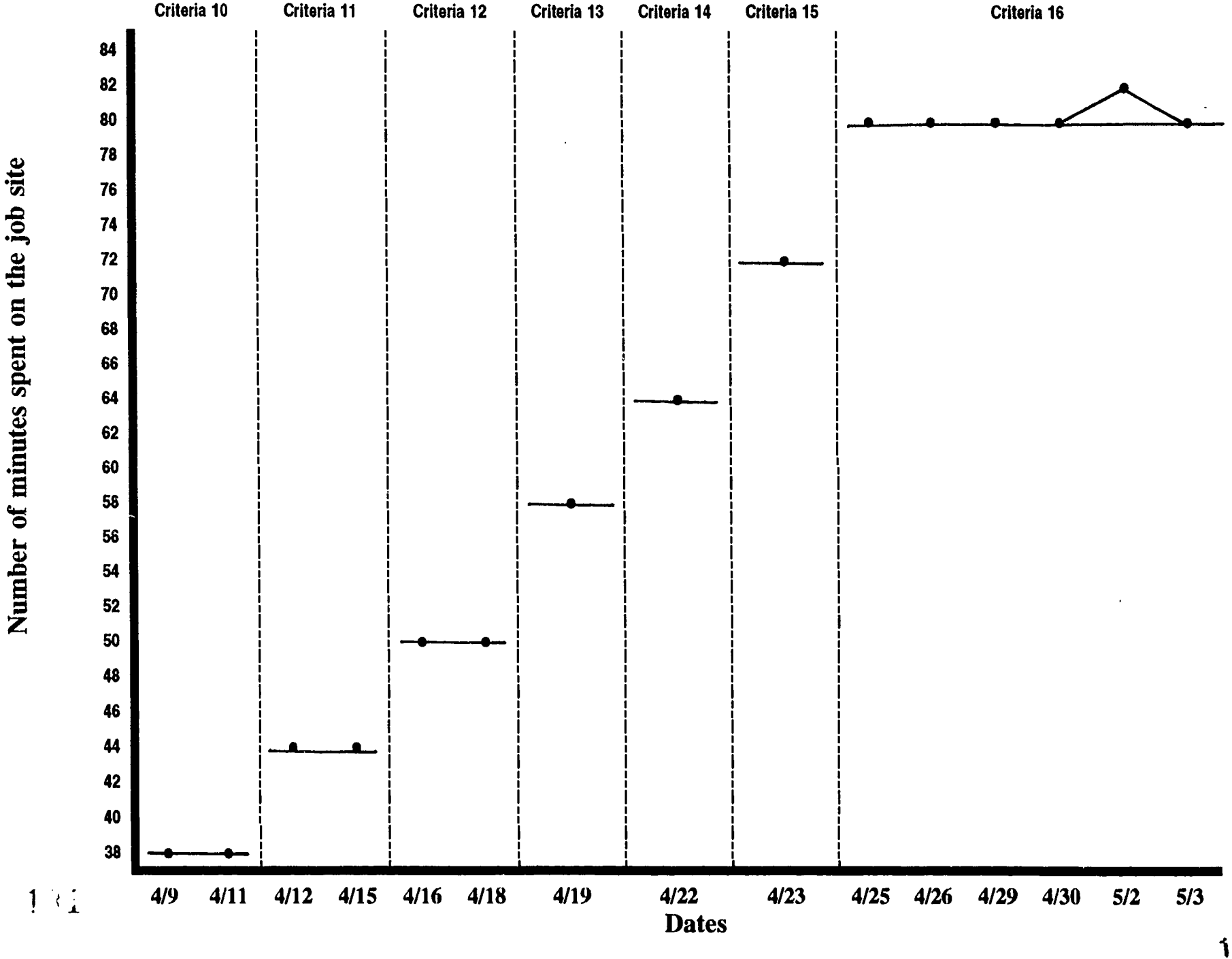
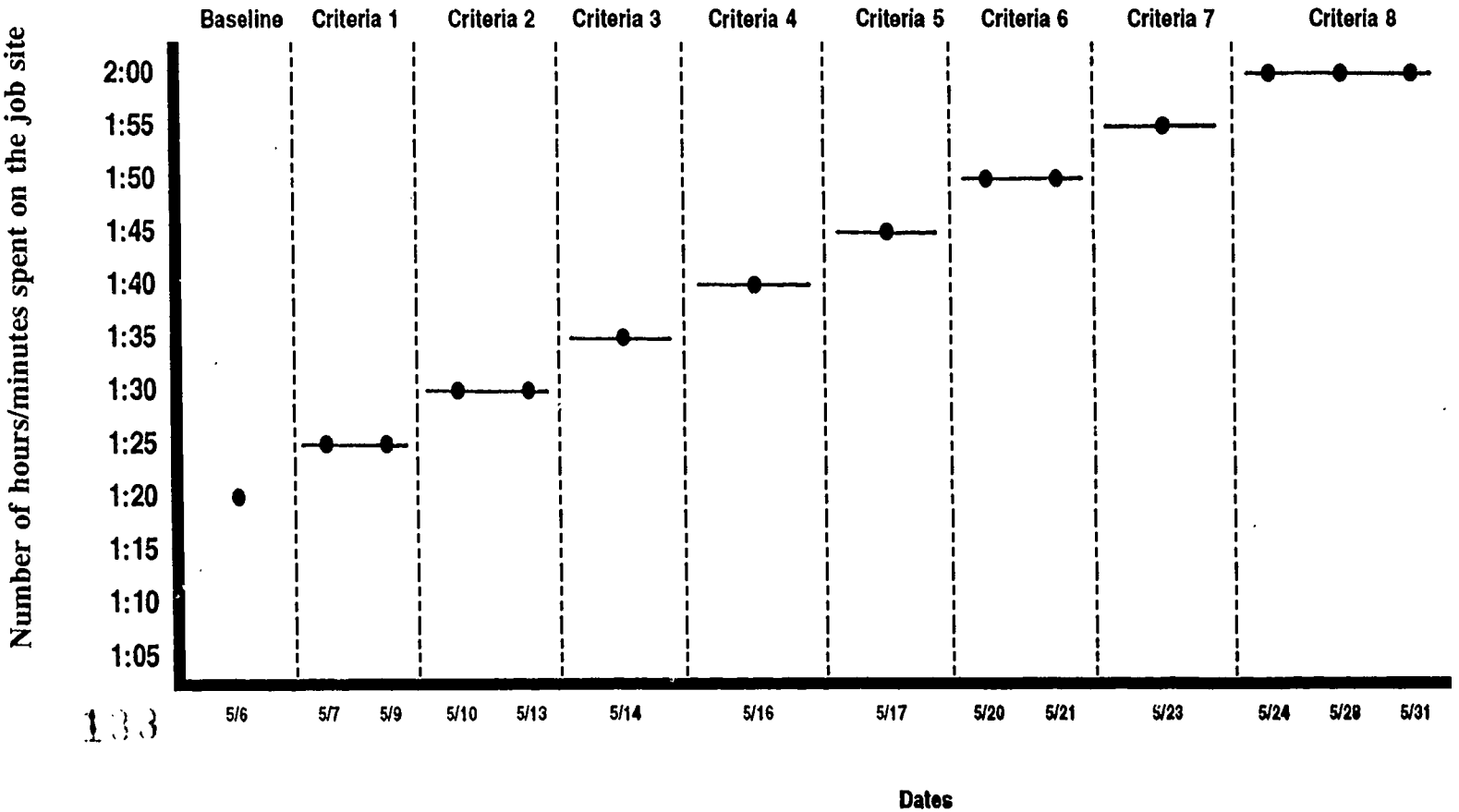


Figure 4: Time On Job Site Using A Changing Criterion Design

Bobby -- Burlington Coat Factory



Supported Employment for School-Age Students with Severe Disabilities: Issues and Applications

Stacy Dymond **Katherine J. Inge** **Valerie Brooke**

Note: The authors would like to express their appreciation to **Mary Ellen Cardwell** from the Social Security Office in Richmond, Virginia. She clarified many points for us related to Social Security during the development of this chapter.

Supported Employment for School-Age Students with Severe Disabilities: Issues and Applications

Transitioning from school to adulthood can be an exciting, yet challenging time of life. It is a time for achieving increased independence and developing a sense of self-sufficiency. One of the major ways that this is accomplished is by entering the work force and obtaining paid employment. Unfortunately, many individuals with disabilities experience difficulty making the transition from school to work (Peraino, 1993; Wehman, 1993). Past studies of people with disabilities exiting the school system indicate that 50 - 70% remain unemployed several years after they graduate (Brodsky, 1983; Halpern, 1990; Haring & Lovett, 1990; Hasazi, Gordon, Roe, Finck, Hull, & Salembier, 1985; Mithaug, Horiuchi, & Ganning, 1985; Wehman, Kregel, & Barcus, 1985; Wehman, Kregel, & Seyfarth, 1985). In addition, individuals with severe disabilities are less likely to be employed than individuals with mild or moderate disabilities (Wehman, 1992).

Community-based vocational training is a critical component of the Individualized Education Program (IEP) for students with severe disabilities during the high school years (Pumpian, Shepard, & West, 1988; Renzaglia & Hutchins, 1988; Stodden & Browder, 1986; Wehman, Moon, Everson, Wood, & Barcus, 1988). Students who receive vocational training in the community are more likely to be employed as adults than students who receive vocational training in simulated work settings at school (Hasazi, et al., 1985; Hasazi, Johnson,

Hasazi, Gordon, & Hull, 1989; Hill, Hill, Wehman, Banks, Pendleton, & Britt, 1985; Wehman et al., 1985b). Training in the community allows students an opportunity to sample real jobs, determine work preferences, and develop a resume or work history (Moon & Inge, 1993). It also provides the teacher or job coach with information about the ideal job characteristics each students needs for successful employment.

In order for many students with severe disabilities to transition from school to work, the transition plan within the IEP will need to include job placement prior to graduation. The Individuals with Disabilities Education Act of 1990 (P.L. 101-476) now mandates that all students 16 years and older (and, when appropriate beginning at age 14 or younger) have a transition plan which reflects their needs and preferences including community experiences and the development of employment. One of the implications of this law is that the role of school staff must change in order to provide these services. This may include expanding the teacher's and the paraprofessional's roles to incorporate job training, hiring or designating staff as job coaches, and/or increasing the flexibility of staff schedules and work hours. In addition, all staff must become better acquainted with supported employment and the process for securing employment for school-aged individuals.

Supported Employment

The most recent definition of supported employment was proposed by P.L. 102-569, the Rehabilitation Act of 1992, which defines supported employment as:

> ***competitive work in integrated work settings for persons with the most severe disabilities for whom competitive employment has not traditionally occurred or for whom competitive employment has been interrupted or intermittent as a result of a severe disability and who, because of the severity of their disability, need intensive support services or extended services in order to perform such work.***

Unlike education, supported employment is not a mandated service to which all persons with severe disabilities are entitled. Rather, it is a vocational option that can be provided by a school program or an adult service provider in a local community. This procedure has emerged nationally as a successful means to assist persons with severe disabilities to attain community integrated competitive employment.

There are two different types of supported employment: group options and the individual placement approach (Moon, Inge, Wehman, Brooke, & Barcus, 1990; Wehman & Kregel, 1989; Wehman & Moon, 1988). Enclaves and mobile work crews make up the two primary supported employment group options. These options place four to six individuals with severe disabilities at a business with a job coach/trainer who remains on site providing training and supervision for 100% of the consumers' work day. In contrast, the individual placement model of competitive employment is distinguished by one job coach and/or employment specialist who supports one person with a severe disability in a community job that pays commensurate wages with non-disabled coworkers. Initially, the job coach provides intensive support both on and off the job site. As the consumer becomes independent, this training and assistance is decreased or faded until the employee is able to work with only intermittent ongoing support.

The following case study is designed to examine how one individual with a severe disability moved from community-based vocational training to the individual placement model of supported employment before exiting school. This case study is based on training provided by the Vocational Options Project, at Virginia Commonwealth University Rehabilitation Research and Training Center (RRTC) on Supported Employment. The major components

of supported employment will be described to include consumer assessment, job development, job site training, and follow along services. This information is intended to be used as a guide by school personnel when they assist students with significant disabilities to achieve employment success.

Method

Student

Mark was 20 years old and in his next to last year of school when he began his initial community-based vocational training placement with the Vocational Options Project. He lived at home with his mother and older brother, and attended a self-contained classroom at a segregated school for students with disabilities. Mark was referred to the project by his teacher based on the severity of his disability and his need for transition services in order to obtain employment prior to graduation. Mark's primary disability was identified as severe mental retardation with his IQ being 30 as measured by the Stanford Binet Intelligence Scale. In addition, he also possessed a significant speech/language impairment. Mark communicated verbally using one to two word phrases; initiated social interactions with others such as saying "hi" and "bye"; and followed short, one-step directions. His gross motor skills were good, and Mark did not have any difficulties with ambulation. He did experience difficulty with fine motor tasks such as buttoning/zipping clothes, holding a fork, and picking up small items. He possessed no functional reading or math skills. His vision, hearing, and general health were good, though he did experience significant allergy symptoms in the spring.

School Work Experience

Prior to involvement in the Vocational Options Project, Mark's school-based vocational training consisted of attending a sheltered workshop class once a week. During this training

period, his primary vocational tasks were to stuff envelopes and collate paper. He also participated in a work crew with approximately 20 other students with disabilities that cleaned a local church in the community once a week. Activities included dusting the church pews, mopping and sweeping the floors, and cleaning the Sunday School classrooms. Mark's specific tasks were to wipe tables and stack chairs in the church classrooms. Staff to student ratio for these weekly sessions was 1 teacher or aide to 4-5 students, however there were no opportunities for Mark or his fellow students to interact with non-disabled workers during this training.

Individualized Work Experiences

The Vocational Options Project provided Mark with three opportunities for vocational training in the community. Although the training sites were developed to reflect a diverse range of job environments that were representative of the community, the job duties at each site were tailored to meet Mark's work preferences and training needs as determined by his mother, teachers, and project staff. Mark was unable to provide suggestions for types of jobs that he would like to do, however he did agree to participate in each of the jobs that were targeted.

Mark's training placements consisted of working in a restaurant dishroom, stocking shelves at a home improvement store, and cleaning bathrooms in the lobby of a motel. Each training placement lasted two hours a day and occurred four times a week, over a six week period. Instruction was provided on a one-to-one basis. While Mark did not reach full independence at any of the training sites, project staff were able to gather specific information about Mark's job and task preferences, as well as critical work environmental factors that should be considered in order to increase Mark's potential for successful competitive

employment. Once the training placements were completed, a resume was created which highlighted Mark's work experiences. Please refer to Figure 1 in the appendix of this article.

Trainers

The trainer for Mark during his community-based training experiences was employed by Virginia Commonwealth University's Vocational Options Project. He had a high school degree and had worked as a teacher's aide in a classroom for students with severe disabilities prior to his employment with the project. In addition, the community-based vocational trainer had worked for the RRTC as a job coach for two years serving adults with traumatic brain injuries.

The coordinator for the Vocational Options Project supervised Mark's trainer and developed the vocational training sites where Mark worked during his community-based component. She had 3 years teaching experience in the classroom working with students who had severe disabilities, and she had recently received a Master's degree from Virginia Commonwealth University with a focus in supported employment. She served as the supported employment job coach for Mark.

Transition Planning Team

Although Mark's transition plan included goals for community-based vocational training, there were no goals for paid employment prior to graduation. After determining that Mark was interested in working, the coordinator from the Vocational Options Project reconvened the transition team to explain supported employment and discuss the possibility of finding Mark a job before he exited school. Specific information was provided about the role of the job coach, the effect that supported employment would have on Mark's Social Security Income (SSI), and how work/school routines could be coordinated if Mark obtained a job during the school day.

An extensive amount of time also was spent talking individually with Mark's mother, to determine her interests, preferences, and concerns related to his employment. Since family support has been identified as a critical factor predicting employment success, it was important to spend time with Mark's mother to determine the level of her support in getting Mark ready for work, providing assistance in transportation, and her preferences for type of employment, location, and work hours. The following questions represent some of the issues that were discussed with Mark's mother in order to determine her support for employment.

Table 1: Sample Interview Questions

1. What types of jobs do you think would be good for Mark? These are the jobs we think Mark might like. (A list was provided to the mother.) Are these jobs okay with you? Are there any jobs that you do not want him to have?
2. Would you be willing to assist Mark in getting ready for work each day (e.g., assist with grooming, washing uniform, getting him up for work on time)?
3. Would you be willing to transport Mark to and from work? If not, what type of transportation would be acceptable (e.g., public bus, specialized transportation, taxi, neighbor)?
4. What is the greatest distance you would be willing to transport Mark to work?
5. Would you prefer Mark to work days, evenings, or weekends?
6. How many hours should Mark work (e.g., 10, 20, 30, or 40)?
7. How do you feel about Mark working during the school day? Is it important that he be at school for any particular time during the day?
8. What benefits does Mark currently receive (SSI, SSDI, etc.)?

It was quickly determined that Mark's mother was very excited about the possibility of her son having a job. She was initially concerned about the effect work would have on Mark's SSI and Social Security Disability Income (SSDI) checks; however once it was

explained that the combined income from work and his monthly checks would exceed his current income, she was fully supportive of Mark working. She also agreed to support Mark by caring for his uniform, assisting with his grooming, and helping him to be ready for work on time. While Mark's mom could not provide transportation she was agreeable to the job coach training him to use other forms of paid transportation.

Based on the parent's support, Mark's interest in working, and the transition team's input, the Vocational Options Project was ready to begin assisting Mark in job development activities. The team added a supported employment goal to the transition plan, and Mark's mom signed a formal release form which gave the Vocational Options Project permission to do job development. Mark's case manager from the Department of Mental Health Mental Retardation and Substance Abuse Services (DMHMRSAS) offered to assist the family as needed while school staff agreed to provide instruction at school on any work-related goals that might pertain to Mark's job. Since Mark was entering his final year of school, a referral was made to the Department of Rehabilitative Services (DRS) to have an adult service representative involved with his transition.

"Consumer Specific" Job Development

In order to begin job development, it was helpful for the job coach to compile a list of ideal job characteristics that would make Mark successful in supported employment. These characteristics were determined based on Mark's performance during community-based instruction, his interests, and the mother's preferences. The following list served as a basis for identifying and evaluating potential jobs as they became available.

Table 2: Ideal Job Characteristics for Mark

- Work area can include one to two work stations.
- Job duties can require Mark to either sit or stand.
- Work shift can be 4 to 6 hours. (Mark has good physical endurance.)
- Work routine should have repetitive tasks that are performed at a slow consistent speed.
- Job should have routine performance standards.
- Job duties can include 3 to 4 different job tasks per day.
- If the job has specific production standards, Mark should only have one to two job duties.
- Work schedule should be consistent from day to day.
- Job should require minimal communication skills.
- Opportunities for social interactions with co-workers/customers are important.
- Supervision (natural supports) must be available at the job site.
- Work can be completed at any time of day.
- Job should not require Mark to lift heavy items from the floor. He can lift from waist height such items as a filled bus pan.
- Work environment should have few distractions.
- Job duties should not include precise fine motor movements.

Community Job Analysis: The next step was to inventory the community in order to identify employment opportunities close to Mark's home. Most of the businesses in his community were part of the service industry (hotels, restaurants, stores), therefore it seemed likely that his employment opportunities would be within these businesses. The job coach identified specific positions by reading the newspaper want ads and inquiring at various service oriented businesses with high job turnover. She also visited several businesses with the identified job types even though there were no officially posted job openings. Several jobs were discussed with multiple employers before

one was selected that met the majority of the "ideal" job characteristics identified for Mark's successful employment.

Mark's Identified Position: The targeted position was advertised in the classified section of the newspaper and consisted of busing tables in the dining room of a large hotel during breakfast hours. The job coach contacted the hotel to inquire about the position and scheduled a time to meet with the manager. During the initial meeting, the job coach explained supported employment, obtained more information about the specific responsibilities of the job, and discussed Mark's qualifications. The manager was particularly impressed with Mark's prior work experience in the community and was interested in giving him an opportunity to work. He had not heard of supported employment before, but he had hired two workers with mild disabilities through a vocational counselor. One of the individuals had worked out well, while the other had been fired.

Following the initial employer meeting, the job coach contacted Mark and his mother to share information about the job. She also explored various sources of transportation to make sure that something was available during work hours. Once it was determined that Mark and his mother were interested in the job and that transportation was available, a time was scheduled for a job interview.

The Interview Process: Due to the severity of Mark's disability, the job coach knew that Mark would not be able to answer typical interview questions. She prepared the employer for this by explaining Mark's method of communication. (e.g. He speaks in one to three word phrases. It is helpful to ask him questions that require a "yes" or "no" response. If he is unsure of what you may be talking about, he may make a comment that is completely unrelated to the conversation.)

The job coach accompanied Mark to the interview and assisted him throughout the process. Even though the job coach knew that Mark would not be able to answer many of the employer's questions, it was critical that he have an opportunity to visit the potential site. During the visit the job coach was able to observe Mark's reactions to the employer, work environment, and potential job duties. Mark got very excited during the meeting and made many comments about things he saw in the hotel environment (e.g., radio, trees, car). When the manager asked him if he

wanted to work, Mark enthusiastically said "yes!" and repeatedly asked the manager "work?" throughout the interview.

Negotiating Job Duties /"Creating a Job Niche": The interview process promoted more questions from the manager, however he continued to express commitment to exploring ways that Mark could be employed as a bus person. The next step was for the job coach to observe other employees performing the job and negotiate Mark's specific job duties with the employer. Observations of the job made it evident that there were many "little" jobs that were completed on an irregular basis in addition to bussing dishes, such as helping customers with specific requests, running the dishwasher when it got busy in the kitchen, and sweeping the floor when a dish was dropped. Since Mark needed a set schedule to follow each morning, as well as a limited number of tasks (three to four), the job coach suggested a specific schedule and list of job duties to the manager. It was decided that Mark's primary responsibility would be to bus tables while other employees would be responsible for the "unpredictable" occasional jobs. The following is Mark's sequence of job duties.

Table 3: Sequence of Job Duties for Embassy Suites Hotel - Breakfast Bus Person

6:00 a.m.	Arrive, Clock in
6:00 - 6:30 a.m.	Put sugars, salt and peppers, and flowers on each table
6:30 - 7:15 a.m.	Bring out trays, obtain rags from the laundry room, wipe trays, return cart to kitchen, get bus pan
7:15 - 9:30 a.m.	Bus tables
9:30 - 9:50 a.m.	**BREAK**
9:50 - 10:40 a.m.	Get cart, clear remaining tables, unload cart in kitchen
10:40 - 11:00 a.m.	Pick up sugars and peppers, and flowers from each table
11:00 a.m.	Clock out, Departure

The process that the job coach used to locate a job for Mark was driven by his specific needs. In other words, job development was **"consumer specific"** based on the information that was gathered during Mark's community-based training experiences, interviews with Mark and his mother, and discussions with his transition team. A more traditional approach to supported employment has been to first identify a job in the community and then match a consumer from a referral pool to the position (Moon, Goodall, Barcus, & Brooke, 1986). In Mark's example, the job coach conducted all her job development activities specifically focusing on Mark. The steps that she completed are as follows:

- **Compile consumer specific information.**

  1. Review community-based vocational training experiences.
  2. Conduct consumer and parent interviews.
  3. Review consumer's formal evaluations and school records.
  3. Hold transition team meeting.
  4. Identify "critical" consumer characteristics for job matching.
  5. Develop a consumer resume.

- **Conduct a community analysis within transportation distance of the targeted consumer's home.** (Moon et al., 1990)

  1. Who are the major employers in the consumer's community?
  2. Which companies have the largest turnover?
  3. Which companies are anticipating growth?
  4. What jobs have been available to individuals with disabilities in this community?
  5. Are there seasonal employment opportunities?
  6. Which of these identified companies (items 1-6) have positions that may match the consumer's requirements and needs?

- **Complete consumer specific employer contacts.**
  1. Read the classified ads.
  2. Identify "help wanted" posters in the consumer's community.
  3. Contact personnel directors/employers in the business(es) that match the consumer's requirements and needs.
  4. Set up appointment(s) to discuss available positions.
  5. Discuss available position(s) with the employer.
  6. Observe coworkers completing the identified job duties.
  7. Spend time working the job.

8. Determine if the current job requirements match the consumer's characteristics and needs for employment.
9. Create an "employment niche" by negotiating job duties with the employer that match the consumer's requirements (Moon et al., 1990).
10. Schedule an interview between the employer and the consumer.
11. Interview the consumer and parent/guardian to determine if the position is acceptable.
12. Negotiate a start date.

It took approximately eight weeks from the day that the job coach saw the ad in the newspaper until Mark's first day of work. Several weeks were spent negotiating Mark's job duties, since the manager wanted to involve other administrative staff in the decision making process. This actually worked to Mark's advantage, since it allowed the job coach the needed time to meet with Mark's new coworkers, to work the job herself, develop task analyses, and notify the appropriate agencies (e.g. Social Security) about Mark's employment.

Pre-employment activities: What needs to be done before the first day of work?

There are several activities that need to be coordinated by the job coach prior to a consumer's first day of work. These activities are either directly or indirectly related to the new employee's job, his/her financial status, or work incentives for the business. Although some duties can be completed once the new employee begins work, it is imperative that the job coach complete the forms required by the business, arrange for transportation, and apply for the Targeted Jobs Tax Credit (TJTC) before the first day of work. The following table presents a list of activities that need to be completed, an explanation of each activity, the team member who is generally responsible for completion, and a timeline for completing the activity. The information that follows the table provides a description of each activity and the sequence of events that were actually completed.

Table 4: Tasks to Complete Prior to the First Day of Work			
Activity	**Description of Activity**	**Team Member(s)**	**Timeline**
Business Forms	* Complete job application. * Sign policy on company rules and conduct. * Complete state and federal tax withholding forms. * Sign for receipt of uniform.	New Employee Job Coach Family Member	Before first day of work
Targeted Jobs Tax Credit (TJTC)	* Verify that new employee is qualified to receive TJTC. * Have employer sign TJTC form and fill in the company's IRS#. * Mail completed TJTC form.	New Employee Employer Job Coach Family Member	Before first day of work
Transportation	* Review transportation possibilities. * Identify the best option. * Arrange transportation schedule. * Develop program for instruction.	New Employee Job Coach Family Member	Before first day of work
Social Security Notification (SS)	* Write letter to Social Security Administration (SSA) to inform them of competitive employment position, hours, and wages. * Submit letter, signed by SS recipient and family member, allowing SSA to release SS information to the Job Coach.	New Employee Job Coach Family Member	During the first week of employment
Social Security Work Incentives	* Review SS Work Incentive Red Book. * Contact SS to determine **Student Earned Income Exclusion.** * Calculate **Trial Work Period** if SSDI recipient. * Be aware of **Substantial Gainful Activity (SGA).**	New Employee Job Coach Family Member Case Manager	During the first week of employment

Table 4: Tasks to Complete Prior to the First Day of Work			
Activity	**Description of Activity**	**Team Member(s)**	**Timeline**
Social Security Work Incentives (continued)	* Determine if new employee could benefit from a **Plan for Achieving Self-Support (PASS).** * Determine if new employee could benefit from an **Impairment Related Work Expense (IRWE).** * Complete paperwork for using **SSA's Work Incentives.**	New Employee Job Coach Family Member Case Manager	During the first week of employment
Employee Information	* Calculate potential changes in SSA benefits. * Offer assistance budgeting using new income & SSA benefits. * Review all paperwork related to Work Incentives. * Share work progress data with employee and parent.	Job Coach Case Manager	During the first week of employment & on-going
Agency Information	* Have employee/parent sign release of information forms. * Contact adult service agency. * Contact Department of Rehabilitative Services. * Contact community support agencies.	Job Coach	On-going

Complete Forms Required by the Business - A job application had been submitted for Mark when the job coach initially met with the manager, however the hotel required each of its employees to complete various other forms. All employees were required to sign a form indicating that they had read and understood the employee rules of conduct. Since Mark was not able to understand or remember all of the rules, the form was signed by Mark, his mother, and the job coach, indicating a joint responsibility for making sure Mark adhered to the rules.

Each employee also was required to complete state and federal tax withholding forms. Mark's mother completed these forms with the help of the job coach, and co-signed her name with Mark, since she was the legal guardian who would be responsible for filing his taxes. The final document required by the business consisted of a form indicating that Mark had received a hotel uniform and was responsible for returning it at the completion of his employment. This form, again, was jointly signed by Mark, his mother, and the job coach.

Submit Targeted Jobs Tax Credit (TJTC) Voucher - The Targeted Job Tax Credit (TJTC) program is sponsored by the Federal Government. It is designed to offer an incentive to businesses who hire individuals that have traditionally experienced difficulty maintaining employment. There are nine groups of people who qualify for TJTC. Students with disabilities would most likely fit into one of the following categories: 1) belonging to an economically disadvantaged family; 2) being a recipient of Supplemental Security Income (SSI); or 3) being an individual with a disability who is receiving or has received vocational rehabilitative services from the Department of Rehabilitative Services. Mark qualified for TJTC, because he was a recipient of Supplemental Security Income (SSI).

An employer who hires a qualified employee who has not previously worked for the business is eligible to receive a tax credit that can be applied to the amount of federal income tax that the business owes at the end of the year. The credit is available to the business from the federal government during the eligible employee's first calendar year of work and is based on 40% of the employee's first $6,000 in wages. The maximum tax credit available to a business for each qualified employee is $2,400.

In order to receive a tax credit, a TJTC voucher must be issued by a state's Employment Commission prior to the new employee's first day of work. With supported employment, the job coach becomes the primary person responsible for helping a potential employee obtain a voucher. Mark's job coach took him to the Virginia Employment Commission to obtain a voucher before he started work.

The job coach called the office ahead of time to schedule an appointment and inquire about the types of information needed for the application. She was told that since Mark appeared to qualify for TJTC as an SSI recipient, he would need to bring a copy of his last SSI monthly statement and a current picture identification. Mark did not have a current I.D., so one was obtained for a nominal charge through the Department of Motor Vehicles.

During the meeting with the Virginia Employment Commission, the TJTC representative called the Social Security Office to verify that Mark was a SSI recipient. Mark was asked to give permission over the phone for the Social Security Office to disclose the information to the TJTC representative. Mark did not understand what was going on, and repeatedly said "hi" into the phone. Since Mark's SSI could not be verified in this manner, the TJTC representative asked the job coach to have the Social Security Office verify Mark's SSI in writing, on letterhead paper.

Mark and the job coach were not successful in obtaining the requested information. The Social Security Office was able to produce a computer printout of Mark's SSI, but would not verify it officially on letterhead. Since the main issue was that the TJTC representative needed official verification of Mark's SSI earnings, the problem was solved by asking Mark's school principal to write a letter on school letterhead indicating the required information.

Mark was issued a TJTC voucher after presenting his picture identification and the letter from his principal verifying his SSI earnings. The voucher was then brought to the employer, who was required to sign it and fill in the company's IRS identification number. Although the form could have been mailed back to the Virginia Employment Commission, it was hand delivered to make sure that it was received before Mark started work. The TJTC representative provided the job coach with a copy of the form and stamped it with the date it was received so that the employer could be provided with additional documentation of the tax credit.

Arrange for Transportation - Since Mark's mother had indicated that she would not be able to transport Mark to or from work, other arrangements needed to be made. The best, most reliable option was to schedule Mark to use "STAR", the specialized transportation service for people with disabilities in his county. Unfortunately, when the job coach called, "STAR" was booked with reservations during the times that Mark needed transportation. It was anticipated that openings would become available within the next month, so the job coach was advised to check on a weekly basis. In the meantime, the job coach would transport Mark to work each morning in her car, and the school would send a bus to pick him up. His schedule was coordinated with the existing bus run that picked up students from the school who were participating in community-based instruction. Mark's mother signed a permission form that allowed the job coach to transport Mark to work in her personal vehicle, as well as, one that allowed the school to transport him from work to school at the end of his shift. Since Mark finished work at 11:00 a.m., he returned to school until dismissal at 2:00 p.m.

Notify the Social Security Office of Employment - The Social Security Office must be notified in writing each time a person starts working, stops working, or when there is a change in their monthly work earnings. These changes effect the amount of Social Security Income (SSI) an individual receives each month. They may also effect a person's eligibility to receive Social Security Disability Income (SSDI). Mark's job coach used a form provided by the social security office to report his changes. She also submitted an "Authorization for Release of Information from the Social Security Administration", signed by Mark and his mother, so that she would have permission to talk directly with a social security representative about Mark's case. Copies of these forms can be found in the appendix of this article.

Determine Appropriate Use of Social Security Work Incentives - One of the greatest fears many individuals with disabilities and their parents have is that they will lose their monthly SSI and/or SSDI

checks, as well as their Medicare/Medicaid coverage, if the individual with a disability goes to work. This does not need to happen. The Social Security Administration provides several work incentives for SSI and SSDI recipients which can help them to keep their benefits while they work. Some of the work incentives apply to both SSI and SSDI, while others are specific to only one of the programs (SSI or SSDI). These work incentives are described below.

All individuals who receive SSI qualify for an **Earned Income Exclusion**. This incentive allows most recipients to keep a portion of their original monthly SSI benefit even after they start working. The amount of SSI they receive depends on the amount of money they earn and whether they qualify for any other work incentives. Once the Social Security Office is notified of employment, the Earned Income Exclusion is automatically calculated when determining the recipient's new SSI benefit. It is not necessary to submit any additional paperwork to claim an earned income exclusion.

A special work incentive is also available for youth under age 22 who are employed while they are still enrolled in school. The **Student Earned Income Exclusion** allows an SSI recipient to exclude up to $400 of earned income a month, with a maximum of $1,620 a year. Like the Earned Income Exclusion, this work incentive helps an employee retain more of their original SSI check. This work incentive should also be automatically calculated by the Social Security Office.

SSI recipients who need additional financial resources in order to help them get or maintain employment may submit a **Plan for Achieving Self-Support (PASS)** (O'Mara, 1991; O'Mara, 1989). This work incentive enables an individual to set aside a portion of their earned income in order to pay for services that will help them achieve their employment goal. A PASS can be written to cover almost anything that is determined work related. Some examples include specialized transportation, attendant care, uniforms, job coach services, and safety equipment. A PASS may be written at any time during a person's employment. The Social Security Office suggests using the format in Table 5 when submitting a PASS.

Table 5: Plan for Achieving Self-Support

Name: _____ **SSN:** _____

My Work Goal Is:

My plan will begin: _____ **I plan to reach my goal on:** _____

I will have the following expenses to meet my goal:

- **item**
- **connection to goal**
- **month(s) paid**
- **cost**
- **total**

I expect to receive the following income that I will use to reach my goal:

I will keep the money at the following bank: _____

I am/am not already working or saving toward this goal.

Individuals who will help in this goal:

Signature and date: _____

Individuals who receive SSDI will be effected by an incentive known as the Trial Work Period. Unlike SSI, where a person's benefits are decreased based on the amount of money they earn, SSDI recipients must be re-evaluated for SSDI eligibility following a nine month Trial Work Period. At the conclusion of the Trial Work Period, the case is reviewed to determine whether the person has reached "substantial gainful activity." **Substantial gainful activity (SGA)**, at the time of this writing, is defined as monthly earnings that exceed $500. Benefits are terminated for all individuals who earn more than $500 a month (SGA), however those individuals whose monthly earnings do not reach SGA continue to receive their full SSDI benefit.

Employees who are determined ineligible for SSDI following their nine month Trial Work Period qualify for an **Extended Period of Eligibility**. This work incentive provides SSDI benefits to individuals during any months that they do not reach substantial gainful activity. The Extended Period of Eligibility is available for 36 months following the nine month Trial Work Period. In

order to receive benefits during the extended period, the employee or job coach should notify the person's Social Security Representative.

One of the main work incentives that can assist individuals receiving SSI, SSDI, or both, is the **Impairment-Related Work Expense (IRWE)** (Rheinheimer, VanCovern, Green, Revell, & Inge, 1993). An IRWE allows a person to deduct the cost of work-related expenses from their earnings before calculations are made to determine their SSI and/or SSDI benefit. In the case of SSI, filing an IRWE helps an individual retain more of their original SSI check. For SSDI recipients, an IRWE may help an employee keep their benefits. Since the cost of an impairment-related work expense is deducted from the person's monthly earnings before SSDI eligibility is considered, using an IRWE may reduce an employee's earnings below the substantial gainful activity level and allow him/her to keep his/her benefit.

An IRWE must be work expenses directly related to an individual's disability and paid for by that individual (Reinheimer et al., 1993). The expense must be paid for within the month the individual is working and not reimbursed by another source. An IRWE is not a written plan. It is a monthly report of expenditures used by the Social Security representative in calculating total countable income and determining continued eligibility or the amount of monthly cash payments. The Social Security Administration must have proof for every IRWE claimed by the worker with a disability. This includes the following:

1) name and address of prescribing source (doctor, VR counselor);

2) impairment for which it is prescribed;

3) receipts and canceled checks.

Some of the expenses that may be reimbursed using an IRWE include the following:

Table 6: Impairment-Related Work Expenses

(Adapted from: Red Book on Work Incentives, 1991).

1. Attendant care services:	assistance in getting ready for work, going to and from work, a reader for the blind, an interpreter for the deaf, etc.
2. Medical devices:	wheelchair, dialysis equipment, respirators, pacemakers, pacers, etc.
3. Prosthesis:	artificial arm, hip, or leg.
4. Work-related equipment:	special typewriter, telecommunication devices, specially modified tools, braille devices, electronic visual aids, etc.
5. Residential modifications:	ramps, railings, doorways to get to and from work, work space in home for self-employment at home.
6. Drugs and medical services:	physical therapy, chemotherapy, anticonvulsant and antidepressant drugs, etc. (if regularly prescribed and necessary for controlling disabling conditions).
7. Medical supplies:	catheters, face masks, bandages, elastic stockings, etc.
8. Guide dog:	food and vet bills etc.
9. Transportation costs:	modification of vehicles, special transportation.

Source: Rheinheimer, G.B., VanCovern, D., Green, H., Revell, G., & Inge, K.J. (1993). Finding the common denominator: A supported employment guide to long-term funding supports and services for people with severe disabilities. Richmond, VA: Virginia Commonwealth University, Rehabilitation Research and Training Center on Supported Employment.

Mark's job coach determined that he was eligible to receive many of the work incentives offered through the Social Security Administration. She obtained a copy of the Red Book on Work Incentives, published by the Social Security Administration, to learn more about the work incentives, and also contacted the SSI outreach coordinator in her area that worked primarily with youth receiving SSI. Both sources were helpful in clarifying the requirements of the work incentives and methods for obtaining them.

Mark qualified for the **Earned Income Exclusion** and the **Student Earned Income Exclusion**, since he received SSI. Although the Student Earned Income Exclusion should have automatically been accounted for when figuring his new SSI benefit, it was not. The job coach had to write a letter to the Social Security Office indicating his age and qualifications before the incentive would be applied.

Mark also qualified for an **IRWE** once he started incurring transportation expenses. Although the job coach provided transportation to the job site initially, it was necessary to find an alternative source so that she could begin fading from the work environment. STAR, the specialized transportation service, indicated that they would not be able to get Mark to his job until 7:00 a.m., one hour after his shift began. (Originally they had indicated that they could provide services when space became available on their buses). The job coach approached the employer about changing Mark's work hours, however, the employer felt that it was essential that Mark be there by 6:00 a.m. The job coach tried, without success, to identify a co-worker or family friend who would be willing to transport Mark in exchange for a small stipend. Eventually a deal was worked out with the taxi driver who provided transportation primarily for the hotel guests. He was willing to transport Mark for $5 a day. Although this seemed like a lot of money, it was the only method of transportation available that would get Mark to work on time.

Mark's transportation expenses, which amounted to $90 a month, were submitted as an Impairment-Related Work Expense. Filing an IRWE permitted Mark to retain an increased portion of his SSI check. More importantly, it reduced his earnings below the substantial gainful activity level, thus enabling him to continue to qualify for SSDI benefits following the nine month Trial Work Period.

Once the job coach began training Mark on the job, she maintained frequent contact with Mark's mother in order to review the amounts of his SSI and SSDI checks and record his monthly total earnings. On occasion, it was necessary to contact the Social Security Office to make sure that Mark was receiving the correct benefits. Although the Social Security system can be difficult to understand, it is imperative that the job coach know about the work incentives available and assist the supported employee and his/her family to maintain as much of their benefit as possible.

Keep New Employee and Family Members Informed about Changes in Social Security Using the Benefits Analysis Form - Once information has been filed with the Social Security Office regarding a person's employment, it may take as long as two or three months before any changes are made in the employee's SSI check. After the changes are processed, the person will experience a substantial decrease in SSI to make up for the first few months that deductions were not made. Eventually, the SSI payment amount will even out to a predictable amount.

Many families depend on the money their child receives from SSI and may experience significant financial difficulty when the check is initially decreased. It is possible to prepare families for these changes by calculating the amount of SSI they can expect to receive when their child starts working. Once the amount is known, families can save the additional money they receive during the first couple of months (before the check is adjusted) and apply it to the month(s) when the check is initially decreased. A simple method for completing a Social Security Benefits Analysis is illustrated in Table 7 using Mark's data. This information was shared with his mother so that she would be able to budget appropriately.

Table 7: Social Security Benefits Analysis

To arrive at your ***new SSI payment*** resulting from going to work, as well as your ***new total*** monthly income, add in your figures where indicated.

$	450.00	amount of your predicted ***gross*** monthly wages.
-	65.00	exclusion.($85.00 or $65.00 if you receive any other unearned income such as VA Benefits or SSDI.)
-	90.00	Individual Work Related Expenses (IWRE) and/or PASS) Mark's IWRE - Taxi expenses
$	295.00	remainder

ONE-HALF of this remainder above is

$	147.50	This is how much your usual **SSI** check will be reduced.

(Keep in mind that this change will show-up in check form about 2 months after you report earnings.)

NOW...

$	383.50	amount of **CURRENT** (usual) **SSI** check
-	147.50	subtract reduction of check (from above)
$	236.00	This is your **NEW SSI PAYMENT** amount after going to work.

To figure your **TOTAL NEW** monthly income...

$	236.00	your new **SSI** payment amount (from above)
+	450.00	your monthly income from work
$	*686.00*	**NEW TOTAL INCOME!**

(Adapted from PEATC, 1986)

Keep Adult Service Agencies Informed - Mark's case manager was notified about his employment soon after he was offered the job. The case manager arranged a time to take Mark's mom over to see where he would be working, since she was not familiar with the hotel's location. The case manager also assisted the job coach by helping the mother set aside money from Mark's SSI checks during the first months of employment.

Although Mark had not been reviewed for services from the Department of Rehabilitative Services (DRS) at the time he was hired, the job coach did send a letter to the school DRS representative informing him of Mark's employment. It was also noted that the Vocational Options Project would provide initial job coaching services, and that Mark would eventually need long-term follow along in order to maintain his supported employment placement. It was agreed that DRS would open Mark's case and secure follow along services for him.

Job Site Training

Once Mark started work, the job coach's primary responsibility became training him to work independently. Instruction was provided on actual job duties, as well as work-related tasks (e.g., clocking in, locating the bathroom, obtaining breakfast during break). Data was collected twice a week on each task that Mark performed. Based on the data, revisions were made in the task analyses, teaching strategies, and level of reinforcement that were provided. The appendix provides excerpts from his instructional program.

All changes that were made during training were recorded in a written program plan. Each time a change was made, the job coach recorded the date, the task in which the change occurred, and a brief description of the change. This information was especially helpful when it came to systematically decreasing the level of verbal reinforcement provided by the instructor and fading the

instructor's presence from the work environment. Since Mark learned each of his tasks at a different rate, the level of reinforcement and degree of fading that was possible varied from task to task. By recording these changes in a program plan, the job coach was able to make sure that she applied the correct level of prompting and reinforcement that Mark needed on each task. She then systematically decreased her level of support as Mark became more independent.

During training, several job-related skills were identified that could be practiced in the home and school environments. These included putting on a coat, buttoning pants, and using a napkin during meals. Since these skills were essential to Mark's employment, the job coach worked with Mark's teachers to develop a strategy for teaching these skills that could be implemented consistently at home, school, and work.

The job coach coordinated several other activities related to Mark's employment during the job site training phase. One of the most important duties was to maintain frequent contact with the employer to review Mark's progress and address any concerns. Data from Mark's training was shared with the employer as well as the members of Mark's transition team. In addition, the job coach secured transportation for Mark to get to work and helped Mark's mom set up a payment schedule with the taxi driver. She also monitored Mark's monthly work hours and reported any changes to the Social Security Office. Although the job coach's primary duty was to provide job site training, it was essential that her role also extend to coordinating related supports that would help Mark maintain employment.

The job coach provided five months of on-the-job training before she was able to fade to one, 15 minute follow along check each day. At that point, another job coach from the Vocational Options Project took on the responsibility of providing follow along services, while continuing to decrease the amount of supervision provided. Eventually supervision was faded to once a week.

Conclusion

The Reauthorization of the Rehabilitation Act of 1992 (P.L. 102-569), supports the importance of work and recognizes that "a person with a disability, regardless of the severity of the disability, can achieve employment and other rehabilitation goals, if the appropriate services and supports are made available." The law also specifies that students who receive rehabilitative services must have a completed Individualized Written Rehabilitation Program (IWRP) before they exit school. The IWRP is similar to an IEP in that it lists the goals that the rehabilitative services agency will work on with an individual.

The transition regulations that were issued in September of 1992, as part of the Individuals with Disabilities Education Act (P.L. 101-476), now require schools to establish transition plans for students by the age of 16, or earlier if appropriate. The regulations indicate that the transition team should include the student and a representative from any agency that may be providing transition services.

Both P.L. 102-569 and P.L. 101-476 are designed to eliminate the break in services that has frequently occurred in the past as students with severe disabilities exited the school system. They create a framework under which transition goals, such as employment, can become a reality for more individuals before they graduate. By extending the role of schools to providing supported employment, students with severe disabilities will increase their likelihood of obtaining jobs before they leave school. This, in combination with the development of interagency agreements between the school and adult service agencies, will further insure cohesive, smooth transitions for students with severe disabilities as they enter adulthood.

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Appendix

1. Mark's Resume
2. Transportation Release Form
3. Release of Information Form
4. TJTC Letter Certifying SSI Recipient
5. TJTC Form
6. SSI Notification Form
7. Instructional Program Plan

Figure 1

Mark Smith
Resume

Personal Information

Mark Smith
2233 Home Street
Hometown, Virginia 33333

Educational Experience

1993 Certificate of completion from Hometown High School, Hometown, Virginia

Work Experiences

September 1990	Dishmachine Operator, Shoneys Restaurant, Hometown, Virginia. Duties included emptying bus pans, scraping and stacking dishes, sorting dishes, glasses and utensils into dishwasher racks and cleaning the dish room counter.
November 1990	Clerk, Hechingers Home Improvement Store, Hometown, Virginia. Duties included Stocking the shelves, fronting the items on shelves throughout the entire store.
January 1991	Janitor, Howard Johnsons Motel, Hometown, Virginia. Duties included cleaning lobby bathrooms by collecting work equipment, cleaning all toilets, cleaning mirrors, sweeping floors, and mopping floors.
1989	Janitor, Lutheran Church, Hometown, Virginia. Duties included cleaning all church classrooms by wiping tables and stacking chairs.

References

Jack Jones, Shoneys Restaurant, Hometown, Virginia.

Malinda Mind, Hechingers Home Improvement Store, Hometown, Virginia.

Rev. Jane Holmes, Lutheran Church, Hometown, Virginia.

RRTC

"Improving Supported Employment Outcomes for Individuals with Developmental and Other Severe Disabilities"

REHABILITATION RESEARCH AND TRAINING CENTER AT VIRGINIA COMMONWEALTH UNIVERSITY

Box 2011, 1314 West Main Street • Richmond, Virginia 23284-2011 • Phone (804) 367-1851

Expanding Vocational Options for Students with Severe Disabilities

Supported Employment
Transportation Release

I give permission to the Rehabilitation, Research and Training Center (RRTC) to provide _____ with transportation to and/or from his/her supported employment
(consumer)
placement, in a project staff member's personal vehicle. I also give permission to the RRTC to provide transportation training which may include street crossing, bus riding, transferring, using a taxi, "STAR" or other related transportation service, car pooling, Ride Finders, or walking. I understand that a staff person from the RRTC will accompany _____
(consumer)
during transportation training and provide instruction until he/she can transport him/herself independently. A determination of independence will be according to a data-based criterion of 5 consecutive days at 100% correct traveling.

Signature: _____
(Student)

Signature: _____
(Parent/Guardian)

Date: _____

RRTC

"Improving Supported Employment Outcomes for Individuals with Developmental and Other Severe Disabilities"

REHABILITATION RESEARCH AND TRAINING CENTER AT VIRGINIA COMMONWEALTH UNIVERSITY

Box 2011, 1314 West Main Street • Richmond, Virginia 23284-2011 • Phone (804) 367-1851

Expanding Vocational Options for Students with Severe Disabilities

Authorization for Release of Information from Virginia Commonwealth University Rehabilitation Research and Training Center to Other Agencies

Student Name: _____ Date: _____

Social Security #: _____

This form authorizes:

To release to:

The following confidential information:

_____ _____

Consumer's Signature Witness

_____ _____

Parent's Signature Relationship to Consumer

Henrico County Public Schools

Virginia Randolph Special Education Center • **2206 Mountain Road • Glen Allen, VA 23060**

October 14, 1993

Virginia Employment Commission
6707 Warwick Road
Richmond, Virginia 23225

Dear Mr. _____,

I am pleased to verify that _____ is a student with mental disabilities who attends this school. He is a recipient of SSI and received a check of _____ for the month of August.

Please feel free to contact me if I can provide additional information to assist you.

Sincerely,

JoAnn M. Marchant, M.Ed.
Principal

cc: Curtis Sutphin

VOUCHER TARGETED JOBS TAX CREDIT INTRODUCING	1. INITIATING AGENCY NAME	2. DATE COMPLETED (MO, DAY, YR)
	3. CONTROL NO.	4. TYPE OF VOUCHER (X ONE) [ ] ORIGINAL [ ] REVALIDATION
5. NAME OF APPLICANT (LAST, FIRST, MIDDLE)	6. SOCIAL SECURITY NO.	7. FOR VEC USE ONLY (X-ONE) CURRENT APPLICATION [ ] RETROACTIVE [ ] COMPANY HIRE DATE REQUEST POSTMARKED
8. ADDRESS (NUMBER, STREET, CITY, STATE, ZIP)	9. APPLICANT PHONE NO.	

NOTICE TO EMPLOYER: If hired by you, the individual named on this Voucher may qualify your company for the Targeted Jobs Tax Credit as authorized under IRS Code 44B. To request the Employer Certification entitling the company to claim up to a $2400 federal income tax credit, complete the Employer Declaration below and mail this form to the Virginia Employment Commission TJTC Unit (see *address block). **THE COMPLETED VOUCHER MUST BE MAILED WITHIN FIVE (5) DAYS OF THE DAY THE INDIVIDUAL STARTS TO WORK.** Federal law requires that tax credit be denied on a voucher postmarked later than the fifth day unless the Voucher was issued on the basis of a written request submitted by the employer on or before the individual's employment starting date.

EMPLOYER DECLARATION - PLEASE SEND A TJTC CERTIFICATION FOR THIS EMPLOYEE.

The certification is for the purpose of obtaining benefits of the Targeted Jobs Tax Credit under Section 44-B of the Internal Revenue Code. I understand that such credit will cease immediately upon notification of any subsequent invalidation. **I HEREBY DECLARE THAT THE ABOVE NAMED PERSON WILL BE EMPLOYED BY:** (Employer representative complete Blocks 1 through 5 F.)
This voucher is not valid for rehire of a former employee or the hire of a relative of the employer. See IRS Publication 572 for details.

1. NAME OF FIRM - ADDRESS OF FIRM	2. EMPLOYMENT STARTING DATE (MO, DAY, YR)	3. STARTING WAGE $ per hour
	4. JOB TITLE OR OCCUPATION	
5. AUTHORIZED EMPLOYER REPRESENTATIVE A. NAME (PRINT)	B. TITLE SIGNATURE →	
C. ADDRESS (NO., ST., CITY, STATE, ZIP CODE) FOR MAILING IF DIFFERENT THAN BLOCK 1.	D. DATE (MO, DAY, YR)	E. PHONE NO. (INCLUDE AREA CODE)
	F. EMPLOYER IRS IDENTIFICATION NO. (As shown on your company's tax return) →	

NOTE: IF THIS PERSON IS NOT EMPLOYED BEFORE THIS DATE, THIS ELIGIBILITY EXPIRES AND THE APPLICANT MUST BE REINTERVIEWED BEFORE QUALIFYING FOR CERTIFICATION. EXPIRATION DATE

COMMENTS:

SIGNATURE OF APPLICANT DATE	COUNTER SIGNATURE (PARENT OR GUARDIAN IF APPLICANT IS UNDER 18)

NAME OF AUTHORIZED VOUCHERING OFFICIAL (PRINT)	SIGNATURE OF AUTHORIZED OFFICIAL	TELEPHONE NO.
Employer: Complete Declaration Section and Mail Original to: Virginia Employment Commission TJTC Unit - Room 322 Box 1358 Richmond, VA 23211		

NOTE: Falsification of data on this form is a Federal crime in violation of 18 USC 1001. Falsification of work or concealment of information is punishable by a fine of not more than $10,000 or imprisonment of not more than 5 years.

Available from the State Employment Commission: FORM VEC TJTC 8468/8469 10/14/93

Form available from the Social Security Administration

REPORT OF NEW INFORMATION IN DISABILITY CASES
USE THIS FORM ONLY WHEN THERE IS A CHANGE TO BE REPORTED

PRINT NAME OF DISABLED PERSON OR PERSONS ABOUT WHOM REPORT IS MADE

SOCIAL SECURITY CLAIM NUMBER ON WHICH BENEFITS ARE PAID.
It is a nine digit number (000-000-0000) followed by a letter only or by a letter and a number (A, B, B_2, C, C_1, D, E, F, or H.)
Your report cannot be processed without the correct claim number

LETTER

_____ _____ _____/_____ _____/_____ _____ _____ _____

DO YOU ALSO RECEIVE SSI OR BLACK LUNG BENEFITS? *(Check one)* [ ] YES [ ] NO

1. [ ] **CHANGE OF ADDRESS** *(Print new address at bottom)*
If the Social Security Administration is sending your payments to your financial organization, do you wish this to continue? [ ] YES [ ] NO

2. [ ] **DISABLED PERSON'S CONDITION HAS IMPROVED OR PHYSICIAN HAS ADVISED THAT DISABLED PERSON CAN RETURN TO WORK.**

3. [ ] **DISABLED PERSON BEGAN WORKING ON** PLACE AND ADDRESS OF EMPLOYMENT OR SELF EMPLOYMENT	MONTH, DAY AND YEAR
4. [ ] **DISABLED PERSON'S TOTAL MONTHLY EARNINGS ARE**	AMOUNT $
5. [ ] **DISABLED PERSON STOPPED WORKING ON**	MONTH, DAY, AND YEAR
6. [ ] **DISABLED PERSON LEFT CUSTODY OF REPRESENTATIVE PAYEE ON** Disabled person's present address:	MONTH, DAY AND YEAR
7. [ ] **DISABLED PERSON DIED ON**	MONTH, DAY AND YEAR
8. [ ] **DISABLED PERSON GOING OUTSIDE THE U.S.** NAME OF COUNTRY:	DATE GOING DATE EXPECTED TO RETURN
9. [ ] **DISABLED PERSON MARRIED ON**	DATE OF MARRIAGE

10. [ ] **DISABLED PERSON IS RECEIVING WORKERS' COMPENSATION (INCLUDING BLACK LUNG BENEFITS) OR ANOTHER PUBLIC DISABILITY BENEFIT OR THE AMOUNT OF PRESENT PAYMENT HAS CHANGED.**

(a) Lump sum payment of →	$	
(b) Date of latest award →	MONTH, DAY AND YEAR	
(c) Claim Number →	NUMBER	
(d) Change in periodic payment amount	FROM $	TO $
11. [ ] Disabled person begins to receive a pension or annuity based on employment after 1956 not covered by Social Security, or cessation of such pension or annuity	Beginning Date (Month/Year)	Ending Date (Month/Year)

12. [ ] **INCARCERATION FOR CONVICTION OF A FELONY** Confinement in a jail, prison, or other penal institution or correctional facility, based on a conviction for a felony committed after October 19, 1980	DATE OF INCARCERATION (MONTH, DAY, YEAR)

SIGNATURE OF PERSON MAKING THIS REPORT:

NUMBER AND STREET, APARTMENT NO., P.O. BOX, OR RURAL ROUTE:

CITY	STATE	ZIP
DATE SIGNED:	TELEPHONE NUMBER *(If any)*	ENTER NAME OF COUNTY, IF ANY, IN WHICH YOU LIVE

Supported Employment Instructional Program Plan for Mark

Job Site: Embassy Suites Hotel
Position: Complimentary (Comp) Breakfast Bus Person
Instructor: Stacy Dymond
Initial Placement Date: September 3, 1991

INITIAL TRAINING PROCEDURES

A. INSTRUCTIONAL STRATEGY: SYSTEM OF LEAST PROMPTS

The system of least intrusive prompts will be used to teach Mark all job duties at the Embassy Suites Hotel. With this strategy, Mark will be given a cue to independently begin If he does not respond within 3 seconds or responds incorrectly, the instructor will provide a verbal cue specific to the step in the task analysis. If Mark does not respond to the verbal cue within 3 seconds or responds incorrectly, the instructor will provide a model cue. If Mark does not respond to the model cue within 3 seconds or responds incorrectly, the instructor will provide a physical prompt to assist Mark in completing the step in the task. All steps in the task analysis will be taught in this manner, first step to last.

B. REINFORCEMENT SCHEDULE

Mark will receive verbal reinforcement on an average of every 2 steps (VR 2), regardless of the level of assistance required to complete each step. After Mark finishes wiping the trays and getting his bus pan (about 7 A.M.), he will be given a 3 minute break at the wait station. Natural breaks may occur between 7 A.M. and 9:30 A.M. if there are no dishes to bus. If a natural break occurs, Mark will be directed to "take a break" over by the wait station. After 3 to 5 minutes, Mark will be prompted "back to work". At 9:30 A.M. all comp breakfast staff receive a 15 to 20 minute break and a free breakfast. Mark will choose what he wants for breakfast and eat with co-workers in the break room.

C. METHOD OF DATA COLLECTION

Probe data on all tasks will be taken using a multiple opportunity probe.

JOB DUTIES: TASK DESCRIPTIONS/INTERVENTIONS

The following information represents portions of the instructional program that were developed for Mark and the employment specialist's comments and modifications. Anyone interested in obtaining the entire program format should send a request to the Rehabilitation Research and Training Center on Supported Employment.

1. **PUT THE SUGARS ON THE TABLE** - The sugar bucket will be set out on the first table each day before Mark arrives at work. Mark will carry the sugar bucket and deposit one sugar container on each table. Once the task is completed, Mark will put the empty bucket in the cupboard under the coffee counter.

October 17, 1991 - Mark has put the sugars on the tables with over 90% accuracy for the past 3 days. Some problems still exist in following the correct route to each table. It is felt that some of these inconsistencies may be due to a dependency on the instructor's prompts. In order to evaluate whether Mark's performance will improve without the instructor's immediate presence, the instructor will fade 10 to 15 feet away from Mark while he is performing the job. If Mark misses a table the instructor will prompt "wait, you missed a table" while simultaneously pointing to the table that Mark missed. If Mark does not go to that table, the instructor will walk back to Mark while repeating the prompt. Verbal reinforcement will be provided midway through and at the end of the task.

October 29, 1991 - Mark has consistently completed the task with 93% or better accuracy over the past 5 days that the instructor has stood 10 to 15 feet away from him. Observations show that Mark prefers to perform the task following a somewhat different route each morning. At the beginning of training Mark was allowed to try this method on a couple of occasions, however his accuracy at performing the task this way compared to using a set route was poor. For this reason, training has continued to focus on following a set route. Since the instructor has begun fading, Mark has initiated doing the sugars out of order again. He is much more visually aware of things now than during the initial weeks of training and is currently able to maintain perfect or near perfect accuracy when he puts the sugars on the tables out of sequence. At this point the instructor will fade completely from the work area. Mark will be allowed to put the sugars on the tables in any order. The instructor will check on Mark when he finishes and if there are any extra sugars in the bucket, the instructor will prompt Mark to check his tables again. Verbal reinforcement will be provided upon completion of the task.

November 22, 1991 - The TA has been shortened to include one step for each table (i.e., Put sugar on Table #1). Instruction at this point will also begin to focus on increasing Mark's production rate.

December 5, 1991 - Mark's accuracy during the past 4 days has been 100%. Coworkers have noticed that pointing at Mark or the tables will help him to remain on task. The instructor has asked all of the co-workers to increase pointing to Mark or his work throughout the day when they see him taking a long time to do his work.

January 8, 1992 - Mark is now performing the task in a reasonable amount of time. Accuracy remains at or close to 100%.

2. **PUT THE SALT AND PEPPERS ON THE TABLE** - The salt and pepper bucket will be set out on the first table (next to the sugar bucket) each day before Mark arrives at work. Mark will carry the bucket to each table and deposit one salt shaker and one pepper shaker on each table. Once the task is completed, Mark will put the empty bucket in the cupboard under the coffee counter.

October 17, 1991 - Mark has put one salt and one pepper on each table with over 90% accuracy for the past 3 days. In order to evaluate whether Mark's performance will maintain without the instructor's immediate presence, the instructor will fade 10 to 15 feet away from Mark while he is performing the job. As with the sugar, if Mark misses a table the instructor will prompt "Wait. You missed a table" while simultaneously pointing to the table that Mark missed. If Mark does not go to that table, the instructor will walk back to Mark while repeating the prompt. Verbal reinforcement will be provided midway through and at the end of the task.

October 29, 1991 - Mark's performance has ranged from 83% to 96% accuracy over the past 5 days that the instructor has stood 10 to 15 feet away from him. Although his accuracy is not as high as it is with putting out the sugars, the instructor will fade completely from the job. One check will be provided midway through the task to monitor progress and provide reinforcement. As with the sugars, Mark will be allowed to put the salt and peppers on the tables out of sequence. If there are any extra salt and peppers in the bucket when Mark finishes, the instructor will prompt Mark to check his tables again. Verbal reinforcement will be given upon completion of the task.

November 14, 1991 - Mark's performance has shown consistent improvement with the current instructional/fading procedure. He is now putting out all of the salt and peppers (most of the time) and has begun to initiate a second trip if he has extra in his bucket at the end. The instructor will now fade completely and check on Mark only when he has completed his task.

November 25, 1991 - The same instructional procedure to increase Mark's production rate on putting out the sugars will be used to increase his production rate on putting out the salt and peppers (See Putting Out the Sugars, 11/22/91). It is no longer necessary to prompt Mark to double check if there are extra salt and peppers in his bucket at the end of the task. Verbal reinforcement will no longer be provided at the completion of the task.

January 8, 1992 - Mark is now performing the task in a reasonable amount of time. Accuracy continues to fluctuate between 85% and 100%.

3. **GET THE TRAYS** - Mark will walk to the kitchen and locate a cart in the back hallway. He will roll the cart to the trays, stack 2 rows of trays on the cart, and roll the cart to the tray area.

September 20, 1991 - Mark is currently able to do parts of each step on his own (i.e., he stacks some trays, not all), but often needs verbal reminders to continue or to move on to the next step of the task.

October 16, 1991 - Two changes have been made in the TA:

1. Sometimes there are no empty carts in the back hallway and Mark must use one that has not been cleared. A step has been added to the TA to "unload the cart" (if necessary once he has rolled it to the trays.

2. The second change involves the way the trays are stacked on the cart. Mark has been taught to make 1 stack, slide it to the far end of the cart and then make another stack with the remaining trays. Lately he has started to create 2 stacks of trays from the beginning by alternating which side of the cart he puts each new group of trays he picks up. (Making 2 stacks of trays helps prevent the stack from falling over and also pre-separates the trays for the way they will go on the counter for the guests.) The step of the TA which involves sliding the first stack of trays over to make room for the second stack will be omitted since Mark seems to be successful completing the task this way.

November 11, 1991 - During the past 2 weeks the instructor has gradually faded from Mark. He is currently able to do most of the task independently, but he occasionally needs assistance to unload the cart or make sure the 2 stacks of trays are fairly even. Although the instructor has been out of Mark's sight for most of the task, she has come in to the kitchen to check on his progress and provide reinforcement 1 to 3 times each day during the task. At this point the instructor will fade completely during the task and discontinue the checks on his progress. Verbal reinforcement will no longer be provided during or after the task.

December 10, 1991 - Mark has continued to have difficulty unloading the cart since the instructor has faded. Although he works steadily in the kitchen, it often takes him a long time to get the trays. The instructor will intervene by helping Mark to locate one of the table carts instead of the big carts. The table carts are usually empty, but when they do have something on them they're easier to clear than the big carts. The instructor will also prompt Mark to pick up a bigger stack of trays from the counter so that it is not necessary for him to make so many trips.

December 14, 1991 - Mark has difficulty rolling the table carts and prefers to use the big carts. The instructor will switch back to prompting Mark to unload a big cart. Verbal reinforcement will be provided once he finds an empty cart or unloads a full cart.

January 10, 1992 - Mark has reached 100% accuracy for the past 3 consecutive days. Verbal reinforcement for unloading the cart will be discontinued.

4. **WIPE THE TRAYS** - Mark will walk to the popcorn machine and pick up a rag. He will grasp the first stack of trays with his left hand and wipe the top, left side, bottom, right side, and middle of the tray. He will then pick up the tray, wipe the back and set it on the round table next to the cart. This method will be used to wipe each tray. When Mark finishes the first stack of trays he will walk to the round table and slide the stack of wiped trays to the far edge. He will then pull the next stack of trays toward him on the cart, and begin a new stack of wiped trays on the round table. Throughout the task Mark will be encouraged to "get a new rag" when his gets wet. The instructor will clean every other tray in order to get the task done in a timely fashion.

September 17, 1991 - Mark has initiated wiping the trays by cleaning the middle first and then doing some of the edges. The TA will be changed to allow him to perform the task in this manner.

November 5, 1991 - Mark has been able to wipe the first tray with 100% accuracy for the past 4 days. He uses a combination of the initial training procedure and the method that was started on September 17th. The TA will be expanded to examine Mark's accuracy at completing all of the trays. Since Mark is still unable to perform the task in a timely fashion, the instructor will continue to wipe one tray for every one tray that Mark wipes. Verbal reinforcement will be faded to an average of every 3 trays.

November 11, 1991 - Mark scored near 100% accuracy on all trays when the instructor wiped every other tray. The instructor will now begin wiping one tray for every 2 trays that Mark cleans. Verbal reinforcement will be faded to an average of every 5 trays.

December 4, 1991 - Mark's performance at wiping the trays remains stable. He started riding a taxi-cab to work yesterday and on most days should be at work by 5:45 A.M. (fifteen minutes earlier than before). Since Mark will have more time to do the trays, the instructor will now wipe only 1 tray for every 3 trays that Mark wipes. Verbal reinforcement will be faded to an average of every 10 trays.

December 11, 1991 - Mark's accuracy over the past 4 days has been at or above 95%. The instructor will discontinue wiping trays and let Mark perform the entire task. The instructor will remain next to Mark and provide reinforcement on an average of every 5 trays.

December 20, 1991 - The quality of Mark's work has remained high, and he has been able to wipe all of the trays in a reasonable amount of time. Depending on the number of trays, it takes him 30 - 45 minutes to complete his work. The instructor will fade 5 feet from Mark and provide verbal reinforcement on an average of every 10 trays.

The Application of Self-Management Procedures to Increase Work Production: A Community-Based Case Study Example

Katherine J. Inge Christopher Johnston Curtis Sutphin

The Application of Self-Management Procedures to Increase Work Production: A Community-Based Case Study Example

The use of self-management procedures is important, because they involve an individual in the learning process or behavior change (Browder & Shapiro, 1985). Even more critical may be the need for students to learn how to monitor their own work performance in order to be independent of a teacher/trainer. Shafer (1986) indicates that one of the overriding demands of employment is the ability to perform acquired skills with minimal supervision. Many students with severe disabilities have never achieved this ability to monitor their performance, since teachers usually do this for them. What often results is prompt dependence on the instructor and an inability to be independent upon graduation in community job sites.

Self-management has been referred to in the literature as self-monitoring, self-control, self-regulation, self-observation, self-evaluation, self-reinforcement, self-instruction, and self-assessment to mention a few (Browder & Shapiro, 1985; Karoly, 1977; Kazdin, 1984; Shapiro, 1981). Self-management strategies may be applied either before or after the target behavior. For instance, a student may use a pre-set alarm on his/her watch to determine when it is time to take a break. Another example, may be a student who uses a picture cue book to determine what tasks need to be completed during the day. Still another example, might be a student who evaluates his/her work performance in order to deliver self-reinforcement

such as money for a certain amount of work completed. The following table provides examples of self-management terms, their definitions, and examples.

Table 1: Frequently Used Terms and Examples of Self-Management

Term	Definition	Example
Self-Assessment	...Discriminating the occurrence of one's behavior (Shapiro, 1981, p. 268).	A student assesses whether he/she had or had not completed a work task such as wiping all the tables in a fast food restaurant.
Self-Reinforcement	...Regulation of behavior by making self-reward conditional upon matching self-prescribed standards of performance...Self-reinforcement requires adoption of performance standards for determining the occasions on which a given behavior warrants self-reward (Bandura, 1976, pp. 135-136). ...Providing oneself with reinforcing consequences contingent upon behavior (Kazdin, 1984, p. 300).	A student takes a coin from a "reinforcer bank" and places it in his/her pocket after a pre-determined amount of work is completed. This strategy usually is combined with other procedures such as self-assessment/ evaluation. For instance, the student determines if the work is completed and takes the coin without prompting from the instructor.
Self-Instruction	...Verbal statements to oneself which prompt, direct, or maintain behavior (O'Leary & Dubey 1979, p. 459).	The student instructs himself/herself by speaking outloud. Such as... "First, I go to the supply closet and get my cart..Now, I go to the windows... Spray the glass... Am I getting all the dirt?... Move on to the next set... Work fast." etc.
Self-Monitoring	...Deliberately and careful attending to one's own behavior (Kanfer, 1980, p. 338). ...Assessing or recording one's own behavior (Kazdin, 1984, p. 308). ...A process which includes both self-assessment/self observation and self-recording (Shapiro, 1981, p. 268).	A student sets a timer for a predetermined length of time. When the timer rings, the student determines if the work task such as sweeping the floor is finished. If so, he/she marks that the task is completed on a picture book of work tasks.

Table Adapted From: Browder, D.M. & Shapiro, E.S. (1985). Applications of self-management to individuals with severe handicaps: A review. JASH, 10(4), 200-208.

The effectiveness of self-management procedures has been documented in the literature to include such strategies as self-recording, self-reinforcement, and self-instruction. Bates, Renzaglia, and Clees (1980) used a changing criterion design and self-management procedures to increase the work production of a young woman with profound mental retardation. Initially, self-reinforcement was attempted to increase the production rate which included having the young woman pay herself for every two units of work that she completed. However, this strategy used alone was not successful. A second procedure was implemented that included self-monitoring as well as self-reinforcement. The young woman was given a "penny board" to use in monitoring her work. By filling the board with her pennies as she completed her work task, she was able to visually monitor how much work had been completed, as well as, how much more work needed to be done to meet a pre-set criterion. As she was successful, the criterion level was increased, and she was able to meet her production requirements. Although this study demonstrates the use of self-management procedures for individuals with profound retardation, it did not occur on a community-based job site.

Lagomarcino and Rusch (1989) designed their research using the Bates et. al. study (1980) and implemented self-monitoring and self-reinforcement procedures in combination with a changing criterion design to increase the work performance of a young man in a supported employment enclave. The individual was instructed to **self-monitor** by taking a nickel from a container after completing the steps for filling soap trays and to **self-reinforce** by placing the nickel on a nickel board. After the board was full of nickels, he was able to "purchase" a pre-selected reinforcer (cake, soda pop, or music). Once the young man learned this procedure, a modified changing criterion design was implemented to increase his production. The application of these procedures resulted in an increase in the filling the trays

task and the packaging soap task. However, the individual continued to receive supervision from the employment specialist in the enclave setting. For instance, the trainer monitored the consumer's work performance and provided instructional prompts, "Go to work", and verbal reminders if he failed to pick up his nickels.

Shafer and Brooke (1985) used a self-recording strategy to increase the punctuality of a young woman with mild mental retardation in a community job site. The consumer recorded her check-out time on a piece of paper that was printed with a calendar grid. The consumer was responsible for recording the time that her supervisor told her to leave the job site on this card, as well as, using the time clock to punch-out. The employment specialist compared her self-recording card with the actual punch-out time every three or four days. A reversal design indicated that the strategy was successful in decreasing the number of days that the consumer left the job site prior to schedule **without** daily supervision from the employment specialist.

Collectively, these studies indicate that individuals with mental retardation are able to self-monitor their behavior. However, there are still a limited number of studies that demonstrate the use of self-management procedures in supported employment worksites for consumers with severe disabilities. The purpose of this article is to describe the application of a self-recording/self-reinforcement procedure to improve one consumer's independent work performance. Initially, a young woman with severe mental retardation was trained to roll silverware using a least prompt strategy in a community restaurant. However, she was unable to meet the production standards of the job without continued prompting and monitoring from the employment specialist. Therefore, a self-management program was designed and implemented to facilitate consumer independence allowing the employment specialist to leave the worksite while the consumer was maintained by the natural supports of her supervisor.

Method

Participant

One young woman who was assessed as having a severe disability participated in this study. She was referred to the Vocational Options Project by her teacher and principal of a local segregated school for individuals with moderate to profound retardation. The project was funded by a federal grant and operated out of the Rehabilitation Research and Training Center on Supported Employment at Virginia Commonwealth University.

Jessica was 19 with an IQ in the range of 32-36 as measured by the Stanford-Binet Intelligence Scale. In addition, she had diagnoses of down syndrome, diabetes, and a speech and language impairment. Prior to placement in supported employment, Jessica had received a total of four months community-based instruction including folding laundry and plant care at a nursing home, cleaning at a church, and cleaning at a government center cafeteria. This instruction was school initiated, and all sites were group training experiences. Jessica's teacher indicated that she probably would be employed in a mobile work crew or enclave situation post graduation. Jessica's parents, at the time of her referral to the Vocational Options Project, were receptive to placement in an individualized community-based instruction program but stated that they were not interested in supported employment due to Jessica's health related concerns. Primarily, her mother was anxious about her diabetes, and how this could be monitored without continued supervision from a teacher/trainer.

Individualized Community-Based Instruction: Jessica received four and one half months of community-based, one-to-one vocational instruction with the Vocational Options Project to include training at Hechingers (hardware store), Howard Johnsons (laundry), and Shoneys (food service). She worked at each job site for 2 hours, 4 days a week, over a 6 week period for a total of 18 weeks of instruction. The following table provides a summary of her job responsibilities and Jessica's work characteristics.

Table 2: Summary of Jessica's Training Experiences

Site 1: Hechinger's	Site 2: Howard Johnson's	Site 3: Shoney's
Activities: • Stocking • Fronting the Shelves	**Activities:** • Cleaning the Restroom • Vacuuming Motel Lobby	**Activities:** • Busing Tables • Rolling Silverware
Time: • 9:30 a.m. - 11:45 p.m. • Mon, Tues, Thurs, Fri	**Time:** • 7:30 a.m. - 9:15 a.m. • Mon, Tues, Thurs, Fri	**Time:** • 12:45 - 2:45 p.m. • Mon, Tues, Wed, Thurs
Information Learned: • Learned to say, "Ask at service desk." • Increased standing tolerance to 1 hr before a break (initially required a break every 10 min.) • Mastered the task of recognizing damaged items and setting aside opened packages. • Able to match to sample. • Able to lift stock weighing up to 20 lbs. • Learned to maneuver a loaded stock cart. • Could not locate area of store for specific items. Did learn to say, "Where does this go?" • Could find her way to the break room, entrances, and exit of store.	**Information Learned:** • No problem with time of day • Learned tasks in 4 weeks • Production issues - Perseverates on task. • Self-management strategy using a picture cue implemented with some success. • Went from 80 min. to clean the restroom to 50 minutes. (The production standard was 20 min.)	**Information Learned:** • Production an issue. • Self-management check card initiated. • Began to recognize clean vs. dirty without prompting. • Began initiating hello and good-bye with coworkers. • Worked well with different trainers and coworkers. • Decreased speed will inhibit Jessica's work performance in the future. She takes great care with her work and, in the process, forgets the importance of working quickly.

Jessica demonstrated several strengths across all 3 community-based training experiences provided by the Vocational Options Project. She consistently displayed a positive attitude and arrived at work each day motivated and eager to work. Jessica's socialization with customers and co-workers was both appropriate and pleasant. In fact, she appeared to work best in situations that provided her consistent access to coworkers. She was able to respond to yes/no questions accurately, initiate "hello" and "good-bye", and carry on short conversations using 2-3 word sentences.

Training sessions were scheduled between 7:30 a.m. and 3:00 p.m., and Jessica maintained the same enthusiasm across all training experiences. During her first training

placement at Hechingers, Jessica required frequent breaks, every 10 minutes, due to excessive fatigue. However, the trainer was able to systematically increase her work tolerance, and she was able to work at a slow, steady pace for up to an hour and a half by the end of her three work experiences. Clearly, this increase in work tolerance was critical to eventual placement in supported employment.

The training strategy that seemed most effective for skill acquisition was the system of least prompts (Moon, Inge, Wehman, Brooke, & Barcus, 1990). Although this systematic instruction procedure was successful in helping her learn her work tasks, Jessica had consistent difficulty with speed across all placements. During Jessica's community-based training experience at Howard Johnson's and Shoney's the trainer tried several self-management strategies to increase her production. Data at both placements indicated that the use of picture cue cards, checks (as self-reinforcement) on the card, and a timer (self-monitoring) could assist her in improving her speed. However, production and work speed at both sites never reached the level of expected employee performance.

Although Jessica required continual intervention/instruction from a trainer, and she did not increase her speed to an acceptable employee standard during her community-based instruction experiences; it was felt that the information gained was essential for placement in a supported employment position. For instance, the trainer knew that Jessica would need a position that required her to work at a slow, steady speed rather than one that required high paced volume. In addition, the trainer could anticipate that she would need a self-monitoring program to address this issue, as well as, a supported employment placement that provided natural supports from her coworkers (i.e. moderate supervision to continue working).

Jessica's participation in the one-to-one community-based instruction also was critical in increasing her parent's expectations for employment. They were approached several times

during the training for approval to initiate job development for their daughter, but were not receptive to the idea. However, over time, their objections began to fade as they worked with her trainer. For instance, he was able to assure them that a job that "matched" Jessica's skill level would be identified. He was successful due to the extensive data and reports that had been generated during the training process. The parents also began to realize that Jessica's diabetes did not have to be a problem for an individual placement position. The trainer reassured them that her job schedule would be flexible in order for Jessica to eat regularly scheduled snacks due to diabetes. As such, the parents agreed to initiate the job development process.

Setting

A part-time position at a restaurant as a bus person was identified for Jessica working 9:00 a.m. to noon, Tuesday, Thursday, and Saturday and 9:00 to 3:00 p.m. on Friday. From the beginning of her placement, she was paid $4.25 per hour for a total of 15 hours per week. During the times of the week that Jessica was not scheduled to work, she continued to attend her regular school program. Her primary job responsibility was to roll silverware and distribute it to the waitress stations. In addition, she would act as the door person on Friday afternoons to greet customers as they entered the restaurant.

This job was designed for Jessica by the restaurant manager in cooperation with her employment specialist. It was determined during the initial interview, that the restaurant often had difficulty keeping an adequate supply of silverware during the course of a work day. As such, the manager was very receptive to creating a position for Jessica that would free up the waitresses from this part of their job responsibility. Moon and her colleagues (1990) refer to this job identification and negotiation process as creating an employment niche for individuals with severe disabilities. Work requirements closely matched Jessica's known skill level as determined by her community-based training experiences. This included the following.

Ability to...

- Work a 4 hour shift with one break;
- Orient to several rooms in the restaurant to include the kitchen, 4 waitress work stations, break area, and restroom;
- Lift up to 20 pounds;
- Maintain an average, steady work pace; and
- Interact socially with coworkers and customers such as greetings/"polite" exchanges.

Training took place throughout the restaurant, however the majority of the instruction occurred at a small work station located between two dining rooms. Waitresses and other employees were constantly moving in and out of this area, since it housed supplies for setting the tables, as well as, serving non-alcoholic beverages. Jessica's work space consisted of a standard folding table approximately 3' by 6' and a folding chair.

Trainer

The employment specialist for this study was employed by the Vocational Options Project at Virginia Commonwealth University. He had a bachelors degree in Psychology, 1 year experience in a sheltered workshop program, and 2 years experience working with school age students doing community-based instruction. In fact, two of Jessica's three training experiences, prior to placement in supported employment, were implemented by this individual. Development of the program design was a joint effort between the authors of this paper.

Measurement and Recording Procedures

The first step in increasing Jessica's production was to set and verify a company standard for rolling silverware. The manager wanted this task completed at a steady, constant work pace, but he did not have a specific pre-determined standard for Jessica to follow. Therefore, the employment specialist observed the coworkers, observed Jessica's production

without reinforcement or prompting, and completed the task himself to determine a reasonable rate of performance. A production standard of **10** pieces of silverware in **8** minutes was set, and the employment specialist discussed this with the management. He agreed that the rate would be satisfactory for job completion, as long as, Jessica maintained this speed throughout her work day.

Prior to implementation of the program design, the employment specialist took a baseline of Jessica's performance. When measured unobtrusively, she completed one piece of silverware an average of every 90 seconds (10 pieces of silverware in 15 minutes.) A baseline of her performance, conducted during an entire work day, indicated that she did not meet the objective of rolling **10** pieces of silverware in **8** minutes. This data is graphed in Figure 1.

Program Design

Self-Monitoring: Two cues were selected to assist Jessica in self-monitoring her work performance. First, the employment specialist purchased a digital kitchen timer and placed **8** minutes in its stored memory. Next, he placed **10** strips of colored tape on the table to the right side of Jessica's work station. Each piece of tape corresponded to one piece of rolled silverware. Jessica was trained to punch the "start/stop" button on the timer as the first step in beginning her silverware task. After rolling one piece of silverware, she placed the completed work on a strip of tape. Essentially, Jessica was instructed to fill the "cue area" with silverware prior to the alarm sounding on the timer.

Self-Reinforcement: The second component of the program was the design of a "reinforcement booklet." During training, the employment specialist learned that Jessica liked

to take a picture card of her work back to school/home which had been checked to indicate completed work tasks. It was decided that this strategy could be modified to serve as self-reinforcement, and therefore, the following procedure was developed.

A line drawing of 4 pieces of silverware positioned on a napkin was created by the employment specialist. He then divided one page of standard white bond paper into 5 sections approximately 8" by 2 1/4". Within these 5 sections, ten line drawings were positioned. Next, the employment specialist used the copy machine to produce multiple pages of his "reinforcer". After producing the pages, he cut them into strips and stapled 5 "reinforcer" sheets together to make a booklet.

Self-reinforcement was to occur after Jessica picked up the ten rolls of silverware from the "tape grid" and placed them in a silverware bin. If the timer had not rung, she pushed the "start/stop" button, picked up the "reinforcer booklet", tore off a sheet, and placed it on the table beside her work. At the end of the day, Jessica could take these "earned" pages to show at school and at home. If the timer rang prior to completion of ten pieces of silverware, Jessica was to tear off a reinforcer sheet and throw it in the trashcan. She then finished the remainder of the ten, put the silverware in the finished silverware bin, and started on the next set of ten by setting the timer.

Five pages were selected for the booklet, since this corresponded to the number of napkins, 50, in a pack, as well as, approximately 1 hour of work. It was felt that this could further assist Jessica in self-monitoring her production/speed. In other words, at the end of one hour of work, Jessica should have an empty pack of napkins, a full bin of rolled silverware, and five sheets of reinforcers that she could take to school or home at the end of

the day. The extra 10 minutes were allowed for getting new supplies and distributing the silverware to the waitress stations.

Job Site Training Phases

Baseline: During this condition, no contingencies for working quickly were in effect. The employment specialist observed Jessica unobtrusively and recorded whether she was able to roll 10 pieces of silverware in 8 minutes. This condition was in effect for one day.

Training Phase #1: Training was implemented after one day of baseline performance which indicated that Jessica could not meet the set production standard. The employment specialist showed Jessica the self-monitoring cues and the reinforcement booklet and told her, "I am timing you, work quickly." When she completed rolling 10 pieces of silverware before the bell sounded, he instructed her to take a reinforcer sheet and place it on the table as hers to keep. Verbal praise also was given for fast work after each trial that met the established production criterion. If Jessica did not meet the criterion, he instructed her to throw away a sheet from the booklet and begin a new trial. During phase #1 of training, the employment specialist remained in Jessica's line of vision and was available for prompting if she failed to follow the self-monitoring and self-reinforcement procedures.

Reversal: After Jessica successfully met the production standard for two consecutive days with 100% accuracy for all trails in her work day, the employment specialist withdrew the self-monitoring and reinforcement strategies, as well as, discontinued providing any verbal cues, prompts, or reinforcement. Jessica was told that she did not need to self-monitor her work. During this one day period, conditions were identical to those during the initial baseline phase.

Training Phase #2: During this phase, the employment specialist returned the self-monitoring cues and reinforcement booklet to Jessica. An initial cue was provided for her to

work quickly, and then he moved out of Jessica's line of vision for 7 minutes in order to observe her unobtrusively. One minute prior to the timer expiring, he returned to her work area to determine if she were meeting the criterion. Each trial during this phase was conducted in this fashion. Instruction on the use of the cues was discontinued and, verbal praise was provided by the employment specialist during breaks, lunchtime, and the end of the day.

Reversal: After Jessica successfully met the production standard for three consecutive days with 100% accuracy for all trials in her work day, the employment specialist again withdrew the self-monitoring and self-reinforcement strategies. Jessica was told that she did not need to monitor her work. During this one day period, conditions were identical to those during the initial baseline phase.

Training Phase #3: The employment specialist re-implemented the self-monitoring and self-reinforcement strategies for Jessica. During this phase, she was responsible for bringing her timer and reinforcement check sheet to work everyday and using her self-management procedures **without any assistance** from the employment specialist. He physically removed himself from Jessica's line of vision during this phase and recorded her performance by unobtrusively observing her from another area of the restaurant. No instruction or reinforcement was provided to her during work except that which was naturally provided by her coworkers and supervisor.

Follow-Along Procedures:

After five successive days of successful, independent work performance. The employment specialist began to leave the wo ˙ site on a pre-determined schedule. At this

point in the program, he began to take data randomly on one production trial of 10 pieces of silverware in 8 minutes rather than for all trials completed in a day of work. Jessica's data from this time period indicated that she continued to meet the production standard when the job coach was on site intermittently. In addition, an interview with her supervisor revealed that he was extremely satisfied with Jessica's performance. The completed supervisor evaluation can be found in the appendix of this article.

Once the employment specialist was no longer on site for an entire work day, Jessica began to discontinue the use of her self-monitoring strategies. It was decided that the employment specialist would continue to monitor her production and, as long as it remained within the set criterion, she would not be instructed to implement the strategies. Jessica began to naturally fade the prompts in the following sequence.

1. **Faded the Check Sheet:**

   Jessica started fading her check sheet by forgetting to tear off her sheet before beginning a set of 10 pieces of silverware. This was first observed on March 25 and remained intermittent until the second week in April. At that time, Jessica had faded the check sheet completely and did not bring them to work.

2. **Faded the Timer:**

   Jessica began to stop using the timer the first week in April. She would "forget" to start her timer at the beginning of each set of 10 pieces of silverware. Next, she began to leave the timer at home. Finally, she stopped using the timer entirely by the third week of April.

3. **Faded the Tape/Grid:**

   By the second week in April, the employment specialist noticed that the colored tape put down on the table as a grid was being removed. During this week, he entered the work area to find Jessica pulling up the tape. When asked why, she responded, "I don't know." The tape continued to be removed whenever the employment specialist replaced it, and Jessica began to stack her silverware like the other waitresses. The employment specialist stopped replacing the grid by the fourth week in April. The following table shows how this process occurred.

Table 3: Natural Fading of the Self-Management Procedures			
Wednesday	**Thursday**	**Friday**	**Saturday**
26	**March 25:** • Began fading check sheet.	26	27
31	**April 1:** • Began fading timer.	2	3
April 7: • Began fading grid. • Check sheet faded completely.	8	9	10
April 14: • Timer faded completely.	15	16	17
April 21: • Grid faded completely.	22	23	24
****April 28:**** • All strategies faded completely. ******	29	30	1

The following data was collected during the random one trial opportunities in the follow-along process. The employment specialist would enter the job site without making his presence known to Jessica and time her work performance. The actual time of day that the data was collected varied according to the employment specialist's fading schedule. The data coincides with the weeks in which Jessica was naturally fading her self-management strategies.

Table 4: Follow-Along Data

Date	Production (Time required to roll 10 pieces of silverware)
4/2	6 minutes and 52 seconds
4/7	7 minutes and 7 seconds
4/15	8 minutes
4/17	7 minutes and 17 seconds
4/23	7 minutes and 24 seconds
4/24	8 minutes
4/28	8 minutes
5/5	8 minutes
5/7	8 minutes
5/14	8 minutes

Results

Figure 1 shows the data for the baseline, three training phases, and two reversals of this program. During baseline, Jessica did not meet the criterion of rolling **10** pieces of silverware in an **8** minute period for **all trials** in a three hour work day. When training phase #1 using the self-management strategies was initiated, she was able to meet the criterion for 90% of the trials on the first and second day of the training. By day three of training, Jessica was meeting the criterion of 100%.

At this point, the employment specialist withdrew the strategies for one day in order to demonstrate a relationship between her ability to meet production and the use of the self-management strategies. Data indicated that she meet the production criterion without the procedures for only 40% of the total trials.

Training phase #2 began after this one day reversal, and Jessica's production returned to 100%. After three successive days of training at 100% performance, the self-management strategies were again withdrawn. Performance level during this reversal decreased to 60% of the total trials. Finally, training phase #3 was initiated, and Jessica was successful in meeting her production for 100% of the trials for five consecutive days without any intervention from the employment specialist.

Table 4 shows the data collected during follow-along services. This indicates that Jessica met or exceeded her production criterion for all random trials that the employment specialist observed. In addition, the work-site supervisor reported that Jessica was an asset to his place of business and that she was exceeding his expectations for work performance.

Discussion

The purpose of this study was to assess the effectiveness of self-management procedures to improve the production of a young woman in a supported employment job setting. The rapid increase in Jessica's ability to meet the production criterion, once the strategies were in place, as well as, a rapid decrease in that ability during the first reversal phase, indicate that this training package did have an effect on improving her work performance. The fact that her behavior did not return to baseline levels for either of the two reversal phases may indicate that Jessica was becoming aware of her performance and work requirements. This is more evident during the second reversal when Jessica meet production 60% of the day's total trials.

Both reversal phases were set for only one day each due to the nature of working in a supported employment job site. The employment specialist needed to determine if the procedures were necessary for meeting production standards; however, he did not want to jeopardize her placement by allowing work rate to drop for more than one day. Using data to determine program effectiveness is critical for program design; however, in real work environments careful attention must be paid to length of time required for all data collection procedures.

It should be noted that a gradual decrease in trainer support was implemented during training phase #2 and #3. For instance, during phase #2, the employment specialist faded his physical presence from Jessica for 7 minutes of each work trial. In addition, verbal praise was decreased to breaktime, lunchtime, and the end of the day. During phase #3, Jessica became responsible for maintaining her own materials, and the employment specialist observed her unobtrusively during all work trials. It is felt that the implementation of a careful fading process from employment specialist support is necessary to facilitate independent consumer performance. For instance, by phase #3, the trainer was in the restaurant and available on an intermittent schedule to provide support but was not constantly in Jessica's line of vision. Once the data indicated that Jessica could successfully continue to work using her self-management procedures and the natural supports of the work site without intervention, the employment specialist was able to move into the follow-along stage of supported employment.

Initial team meetings on Jessica's program plan had included discussions concerning systematically withdrawing the self-management procedures one-by-one after she met the production criterion of phase #3. This was to be implemented as the employment specialist moved into the follow-along phase of supported employment. Primarily, it was hoped that the strategies would make Jessica aware that she needed to work quickly; a concept that did not previously have meaning to her. Once she was taught to monitor her speed independently, it was felt that she may be able to do this without the self-management strategies.

It is interesting to note that Jessica self-initiated fading the procedures **before** the employment specialist implemented this portion of her program. As such, it was decided that she should precede at her own pace. The employment specialist carefully monitored her performance through data collection and informal interviews with her supervisor and coworkers. Within a one month time span, Jessica became independent without the self-management strategies while continuing to meet the production requirements of the position.

It is hypothesized that the student initially did not fully understand the concept of working at a constant speed. The initial use of the self-management procedures assisted her in meeting production without constant interference from the employment specialist, until she began to do so independently. In addition, it is suggested that the natural consequences of working at an acceptable speed (e.g. positive interactions from her supervisor and coworkers) began to influence Jessica's work performance. It is assumed that the self-management procedures quickly lead to the transfer of control from artificial prompts and reinforcers to the naturally occurring supports on the job site. By implementing a procedure that actually placed Jessica in control of her own training, it is felt that she presented a competent image to her fellow workers.

Summary

Currently, Jessica continues to be employed by the restaurant to roll silverware. Responsibility for monitoring her progress was turned over to the school system and the local community service board for individuals with mental retardation upon termination of the Vocational Options Project. It is felt that this preliminary study shows that self-management procedures are a viable option for initial supported employment job site training. The program was manageable within a real work site using data based decisions for setting objectives, training, and fading supports.

Further studies to replicate these findings would be necessary before conclusive results can be drawn about the procedures. In addition, some students may continue to require self-management procedures to meet their production standards, while others may be able to perform independently after initial application. This should be determined on an individual basis using data based decisions.

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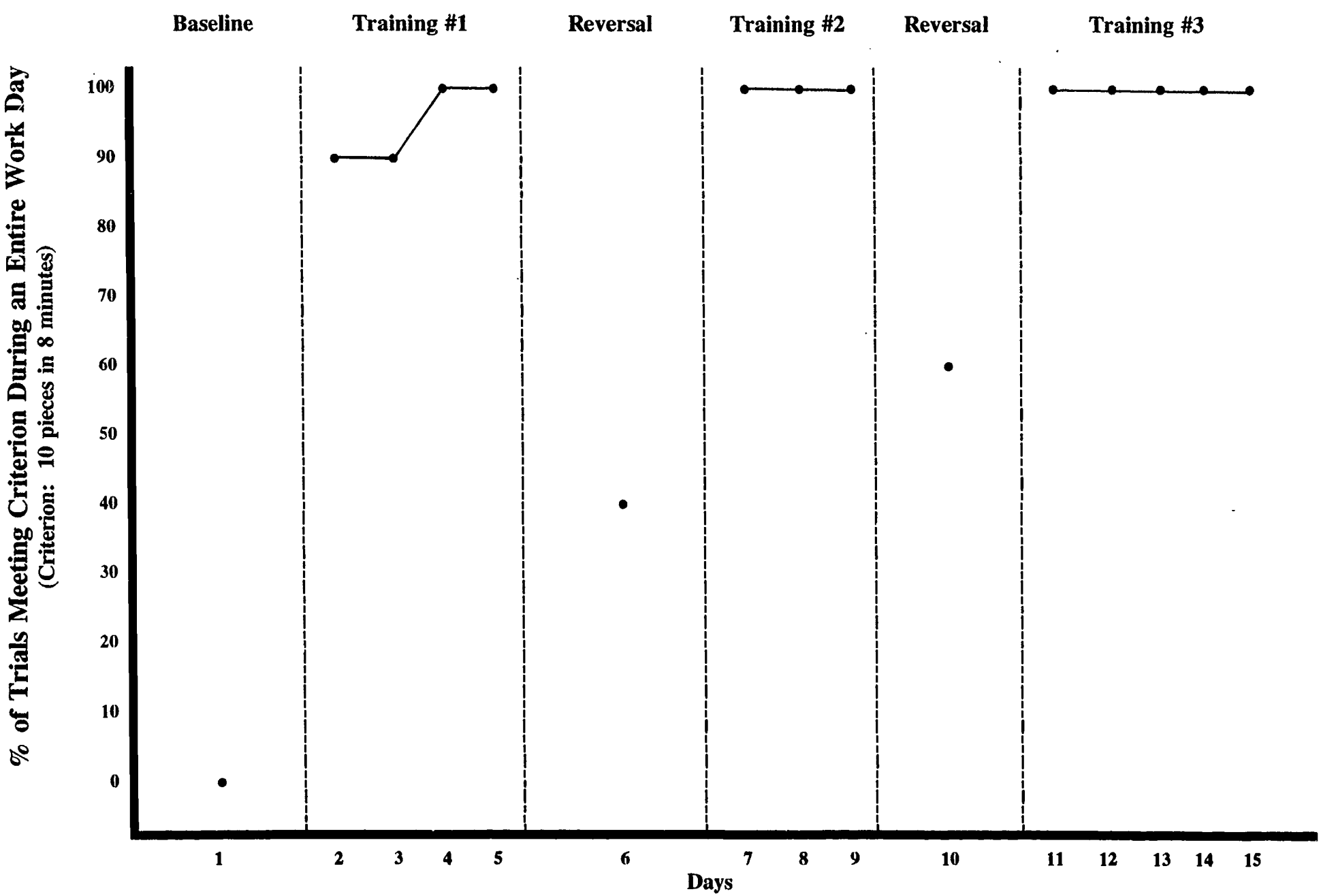
Appendix

Self-Management Procedures Program Data

1. Figure 1: Production Chart
2. Supervisor's Evaluation Form

Figure 1: Production Chart - Olive Garden - Jessica



Vocational Options Project

"Community-Based Instruction Opens Doors to Supported Employment"

Supervisor's Evaluation Form

Employee:
Name: Jessica R.
SSN: _____
Company: Olive Garden

Staff:
Name: Chris Johnston
I.D. Code: _____
Date: 5-24-93

How was this evaluation completed? X Personal Interview ____Phone ____Mail

Using the following scale, please check one number to the right of each question that best represents your opinion about this employee's present performance:

1	2	3	4	5
Extremely Dissatisfied	Somewhat Dissatisfied	Satisfied	Very Satisfied	Extremely Satisfied

	1	2	3	4	5
1. timeliness of arrival and departure from work?					✓
2. attendance?					✓
3. timeliness of breaks and lunch?					✓
4. appearance?					✓
5. general performance as compared to other workers?					✓
6. communication skills?					✓
7. consistency in task performance?					✓
8. work speed?					✓
9. quality of work?					✓
10. overall proficiency at this time?					✓

11. Do you wish to meet with a representative from the program? Yes (No)

Additional comments: Jessica is a great addition to our staff. Thank you -

Name: (print) Robert Smith
Signature: Robert Smith

Phone: (804) 367-1952
Title: Manager

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A Selective Review of Supported Employment Literature: Progress Made and Challenges Ahead

Paul Wehman

A Selective Review of Supported Employment Literature: Progress Made and Challenges Ahead

There was a time in the not too distant past that people with severe disabilities did not participate in the nation's competitive labor force. Those that did were traditionally involved in sheltered workshops, adult activity centers, or assumed lengthy stays in prevocational training programs. Previous thinking was reflected in the fact that people labeled with severe mental retardation, autism, severe cerebral palsy, deaf-blindness, and other severe disabilities could not possibly work in competitive employment. Real work seemed to be outside the range of possibility for tens of thousands of people who remained at home, lived in institutions, or sat in large segregated day programs of which there are, even today, over 7,000. However, in the 1970's behavioral training technologies emerged and began to show that vocational competence could be achieved by people with severe intellectual disabilities. Pioneering researchers such as Marc Gold and Tom Bellamy consistently demonstrated that individuals with intellectual, physical, and behavioral challenges could complete complicated vocational tasks such as putting together electronic circuit boards when given systematic training and instruction.

As this behavioral technology developed, a new group of researchers began to investigate how to expand the range of involvement for people with severe intellectual and physical disabilities in the competitive workplace. This was an important change in thinking, since the emphasis in the 1970's was clearly on vocational training, not placement followed by training. It was obvious that placement into a business or industry of a individual with

an IQ of 25 or a person with autism and a high rate of head banging could not be accomplished without support. In fact, such thinking had never been seriously considered, because, on face value, it appeared to be ridiculous.

As the 1970's drew to a close and the 1980's began, a new way of providing services emerged called **supported employment**. This service technology was as complicated to implement, as it was simple in principle. The basic notion involved the use of a trained staff person who would accompany the person with a severe disability into a paid job in the workplace. There was no negative outcry from business and industry and, in fact, parents and individuals with disabilities welcomed the opportunity to try a real job. The most challenging efforts, as this technology spread, were to encourage service providers and local programs in the community to critically reexamine their practices and reevaluate what they were doing. It became increasingly clear that many of the dollars that were going to support services for people in segregated day programs must be reallocated into supporting job coaches to work with people in the community.

What Has Been Accomplished?

It is important for those of us that work to solve today's problems in supported employment to look carefully at what has been accomplished over the past ten years. The "gold standard" of service a decade ago was for a person with a severe disability to enter some type of adult day program; that is, to get off of a waiting list and gain day services. Now, as Rebecca McDonald noted in her testimony to Congressman Owens' Subcommittee on Select Education, more and more parents of students with disabilities are requesting integrated classroom opportunities, as well as, active transition planning for competitive

employment (McDonald, March 6, 1992). These requests for placement into competitive employment would not be taken seriously today, if not for the demonstrated success of supported employment in the late 1970's and the 1980's.

One other important point needs to be made in this context. In the 1985 - 1986 period, the United States Department of Education allotted money for 27 states, some of which are the largest in the country, to revamp their adult service system in order to open the doors to supported employment for more people with severe disabilities. What was dramatic about this time period is that supported employment moved from a series of university based and other isolated demonstrations to a national initiative that would build supported employment capacity across all 50 states. The groundwork that was laid for these five-year systems change grants provided a critical blueprint for what would happen in the 1990's, particularly in the event that a severe recession would occur. It is important to remember that through the 1980's the United States was essentially in a economic boom period and supported employment programs which draw heavily on business hiring new workers were able to prosper. Proponents of supported employment always wondered how well these programs would fare during an economic downturn.

If the 1980's were an exciting and stimulating period of development for supported employment, it is only fair to ask, "what do the present and future hold?" What can we point to as clear outcomes? First, it is clear that in a very short period of time a new gold standard has been established for adult services. No longer is simply entering and receiving day program services sufficient. Families, consumers with disabilities, and advocates alike are rightfully asking for more. They want better jobs, better fringe benefits, more working hours. Simply put, they want what people without disabilities want from a job.

The second area where tremendous progress has been made is the amount of participation which has occurred over the short period of time from 1985 to 1990. This period has witnessed a growth from less than 10,000 people with severe disabilities in supported employment to now over 75,000 (Wehman, Kregel, & Shafer, 1991). Furthermore, we are finally seeing people with disabilities other than mental retardation being involved.

A third area of growth and progress that we can look back upon favorably is that all 50 states now have established supported employment programs. Families also have a greater likelihood than they did 5 to 10 years ago of helping their adult child with a severe disability to gain a real job. This is usually accomplished with the assistance of the federal/state vocational rehabilitation program providing and monitoring oversight according to the regulations established in the Rehabilitation Act Amendments of 1992.

Finally, there continues to be a growing level of interest and greater calls for participation, particularly from those people with traumatic brain injury, sensory impairment, and physical disabilities, as well as, families of young people who are leaving school and looking for first time employment. Also included in this request for services are minorities with disabilities, perhaps the most underserved group of all.

What follows is a detailed review of articles on supported employment. Most generated some form of quantitative data related to supported employment within the past 13 years. This review is divided into 5 general categories of literature and is followed by an analysis of needs that remain.

Development and Implementation of Individual Client Interventions

The first category of literature to be reviewed is by far the most substantial. Since the late 1970's, many papers and articles have been written about how to provide supported employment intervention for clients with severe disabilities. In developing this review, primarily documents that provided data were included. The papers which are discussed on the following pages are presented for the most part, in a chronological time sequence.

Sowers, Thompson, and Connis (1979) developed a Food Service Vocational Training Program at the University of Washington. This program demonstrated clearly that, with intensive job training and an extensive on the job follow along, many persons with mental retardation who were currently in workshops could successfully work in competitive employment. In addition, these results showed that financial savings to society are overwhelming when adults with mental retardation are removed from workshops, trained, and placed in the competitive workforce.

The outcome data from this program indicated that not all of the trainees who entered the program were trained and placed successfully. The authors stated that this raises the need to identify those individuals who are most likely to succeed in a "training for placement" program. They indicated that the issue is complex, since a multitude of variables are involved including living environment, family support, past work, training experiences, and so forth. Their data revealed that measured intelligence (I.Q.) was not a useful indicator of success for those whose I.Q.'s were above 40 and that "poor attitude" behaviors were more important. This report did not show success with individuals whose I.Q.'s were less than 40. Sowers, Thompson, and Connis (1979) did note, however, that it appeared that the reason for

failure by this group of individuals resulted more from inadequate training than from a person's I.Q..

Concurrent with the Sowers et al. (1979) study, Wehman, Hill, and Koehler (1979) reported on a demonstration project called Project Employability, which was a job placement and training program initially funded by the Virginia Department of Rehabilitative Services. This paper described three case studies of individuals with severe developmental disabilities who had not worked competitively prior to their inclusion in Project Employability. They were selected for employment, because it was believed that they would provide a true picture of the planning requirements, observation, and intervention difficulties involved in competitive employment. It is in this early paper that the concept of a regularly available "trainer-advocate" was outlined as a helpful intervention. In addition to this paper, Wehman and Hill (1980) edited a monograph that included a number of articles on demonstrations and studies involved with placing people with severe developmental disabilities into competitive employment using supported employment. The Wehman and Hill (1980) volume focused extensively on a place, train, and follow along approach.

Brickey, Browning, and Campbell (1982) also reported job placement histories of 73 sheltered workshop employees placed in projects with industry. Competitive jobs were examined during a 30 month period, with 48% of the total people suddenly placed into competitive employment. Brickey et al. (1982) indicated that the job variables such as training structure at the job site appeared to be more important to job success than employee demographic variables such as I.Q.. Also at this time, Krauss and MacEachron (1982) reported a program that placed persons with mental retardation into competitive employment.

The program was initiated as a pilot in 1979, and the authors were interested in investigating the viability of competitive placement. The results indicated that clients' work behavior and job skills ability to meet the requirements for the jobs and employment reinforcement were predictors of success in competitive employment. The placement rate was reported as being 50%.

Also in 1982, Wehman, Hill, Goodall, Cleveland, Brooke, and Pentecost (1982) published one of the first definitive papers documenting three-year outcomes of a supported employment program which focused exclusively on individual placements. This paper described a training and advocacy approach, e.g., a supported employment approach to placement that involved client training by staff at the job site. Staff advocacy took place with coworkers and employers, and all clients were paid by employers as part of the regular workforce. A total of 63 clients were placed with 42 working at the time of the report for a placement rate of 67%. Wehman et al. (1982) reported that $265,000 were earned by these clients, and over $26,000 paid in state and federal taxes. The significance of this paper is that it is the first large study that described the follow along approach of supported employment with clients who had been viewed by professionals and parents alike as "realistically unemployable."

Three years later Wehman, Hill, Hill, Brooke, Ponder, Pentecost, Pendleton, and Britt (1985) published a follow-up paper of individuals with mental retardation that had been working competitively for a six year period. A total of 167 consumers with a median level measure intelligence of 49 were placed into competitive employment using the identical model as described in the Wehman et al. (1979) and Wehman et al. (1982) papers. Over one

million dollars were earned by these consumers through the six year period with the average length of time on a job for all workers being 19 months. For most individuals, this was their first real job.

In another article, Rhoades and Valenta (1985) reported one of the first data-based approaches to industry based supported employment using a group model, the industrial enclave. This program model provided ongoing supported employment within a normal industrial setting to six persons who were previously judged to have severe mental retardation. After one year, these employees had dramatically increased earnings and productivity over their previous earnings, and public cost had declined to one-third that of alternative state programs.

In another study involving the teaching of janitorial skills in a competitive work setting, Test, Grossi, and Keul (1988) examined the use of supported employment for training competitive work experiences to a 19 year old student with severe retardation. The job training involved complex janitorial skills, and training consisted of a combination of total task presentation and an individualized prompting hierarchy. A multiple baseline design across behaviors was employed using emptying trash cans, detail cleaning, daily cleaning as the three sets of behaviors. The use of supported employment as a means of providing competitive work experience for young adults with severe disabilities was discussed.

In yet another report of persons with severe retardation, Wehman, Hill, Wood, and Parent (1987) reported the competitive employment experiences of 21 individuals with I.Q.'s under 40. Over an eight year period from 1978 to 1986, 21 persons were competitively employed with ongoing or intermittent job site support in competitive employment. A

cumulative total of over $230,000 of wages was earned. Significant vocational problems included slow work rate and lack of appropriate social skills, e.g., behavior problems. It was concluded that while this report extends concerns of competitive employment literature to persons with more severe intellectual handicaps, more expanded work needed to be done with this group.

It was in this general time frame of 1985 to 1990 that more sophisticated discussion papers began to emerge. For example, Nisbet and Hagner (1988) examined the importance of natural supports in the work place. They strongly suggested that less intrusive ways of supporting clients at the job should be created; that is, to say that the use of agency sponsored job coaches should not be viewed as the exclusive or primary mode of providing support. Berg, Wacker, and Flynn (1990) wrote extensively on generalization and maintenance of work behavior, particularly in the context of supported employment. They have been major contributors in this area (Flynn, Wacker, Berg, & Hurd, 1991). In similar fashion to the Nisbet and Hagner (1988) paper, Buckley, Mank, and Sandow (1990) also began to discuss, in greater detail, the varied types of support strategies. For example, they indicated support strategies could be divided into three categories. The first involved structurally oriented strategies that directly involve the individual with disabilities. The second set of strategies is aimed at increasing coworker and supervisor involvement. The third set of strategies is directed toward parent advocate and other service providers.

As a follow up to the earlier Wehman et al. (1987) article on looking at outcomes for people with severe retardation, Wehman and Kregel (1990) undertook a much larger analysis of 109 persons with severe and profound mental retardation. The mean age of the group was

28 years old and mean intelligence on the Stanford-Binet was 30. The data were drawn from over 90 local community programs in the United States, and the results indicated that all persons were in supervised residential situations. A total of 93% were competitively employed with the mean wage being $3.63 per hour and 22 hours of average weekly employment. After 12 months of placement, 81.5% of the clients were still employed. These data, which were published internationally, provided a much brighter picture of the capabilities and involvement of people with severe and profound retardation in supported employment.

Kregel, Wehman, and Banks (1989) also undertook perhaps the largest investigation of the characteristics of over 1,400 individuals with severe and profound disabilities who were involved in supported employment in 8 states. Results indicated that individuals currently participating in supported employment possessed very limited previous employment experience, yet, did not possess functional characteristics indicative of individuals with severe profound disabilities. Persons with severe/profound disabilities were found to be minimally represented in current supported employment efforts representing, less than 8% of all individuals investigated. When one begins to carefully look at the supported employment outcomes for persons with severe retardation, it becomes abundantly clear that actual participation level in supported employment is much lower than it might be. Undoubtedly, this requires the greater skills, on the part of job coaches, to place individuals with severe and profound mental retardation, as well as, the substantial costs.

The late 1980's also showed an increasing interest in studying social integration and the role of coworkers. For example, McNair and Rusch (1991) developed a coworker

instrument to assess levels of friendship and helping in the workplace. At the same time, Parent and her colleagues (1992) were validating a Vocational Integration Index.

Finally, several investigators looked at the impact of supported employment in different states. For example, Ellis, Rusch, Tu, and McCaughran (1990) evaluated supported employment outcomes in Illinois. These authors indicated that supported employment has been implemented throughout the state of Illinois and that hundreds of individuals are now participating in supported employment who would not have had access to paid work. Kregel, Revell, and Hill (1990) also reported supported employment outcomes in Virginia. They provided outcomes related to level of participation, level of severity, hours of work per week for supported employment clients, the types of models used, and the nature of supported employment job retention. Additionally, Vogelsburg (1990) provided 24 months of supported employment implementation in the state of Pennsylvania. Major sections of this paper identified service development issues, challenges for long term funding, and ways to expand the initial two years of Pennsylvania state implementation.

Summary

The above papers are, for the most part, not sophisticated and do not provide stringent experimental controls or even control groups. They are aggregate demonstrations with a heavy reliance on descriptive data presentation. Generally speaking, the sample sizes are small and subsequently the ability to make definitive extrapolations is not good. On the other hand, the population that has participated in these supported employment programs historically has never been in competitive employment and has only been in sheltered workshops, day care programs, or an waiting lists. It is reasonable to assume that with such

a large number of demonstrations, even with the inability to carefully document replicable procedures and the incumbent subject selection bias, that supported employment has made a significant difference in the lives of people who traditionally would not be in an integrated workplace. The outcome data from these aggregate reports clearly provide a basis and challenge for more sophisticated research to occur in the 1990's, as well as, more specific questions to be asked in differential effects of service delivery models, best ways to predict outcomes and other related questions such as benefits and costs. It is this category that this literature review will turn to next.

Benefits and Costs Associated With Supported Employment Programs

A common question frequently asked about supported employment is: What will it cost? From the beginning of the development of supported employment programs, this has always been a frequent question and even criticism. Although the benefits, monetary and otherwise, have been readily acknowledged by many, the costs involved in developing supported employment programs has varied considerably. There have been, however, some studies which have looked at costs and benefits.

For example, in one of the early studies Hill and Wehman (1983) presented an analysis of cost incurred and tax money saved over an approximate four-year period through the implementation of an ongoing supported employment program. The focus of this analysis was on the amount of money saved rather than on the wages earned by workers with moderate and severe mental retardation. Factors in the cost analysis included the number of months a client had been working, the amount of staff hours expended on the client at the job site, the amount of funds expended proportionally to each client, SSI income saved, and the

estimated cost of day programming for the client if no job placement had been made. After almost four years the public's cumulative savings totaled $620,576 with expenditures being $530,000. Since initiation of the program, Hill and Wehman reported that the clients cumulative earnings were over half a million dollars.

An extension of this report was completed by Hill, Wehman, Kregel, Banks, and Metzler (1987) by extending the analysis to 8 years. It was found that the positive financial consequence accrued to the public was over **one million dollars**. Since the study extended over 8 years, all figures were corrected for inflation and discounted to 1986 dollars. Individual analysis revealed that all clients served benefitted financially from the program and that results showed that substantial savings to tax payers with the utilization of a supported employment model.

Echoing the positive benefits associated with supported employment is a paper by Noble and Conley (1987). They indicated that evidence about benefits and costs of supported employment was growing rapidly. Their biggest caveat was that there was a lack of definitive data collected in controlled experimental studies.

Beale, McCaughran, and Tines (1989) also argued about the methodological pitfalls of benefit costs analysis for supported employment programs. They indicated that there should be concerns related to logic, omission, and impression of the data. The Beale et al. (1989) paper reported ranges of their data from Illinois indicating similar conclusions to the Hill et al. (1987) paper but significantly reduced the certainty that tax payers would definitively benefit from supported employment programming. The group from Illinois also published recently a longer version over 5 years, benefit-cost data from supported employment in that state (McCaughran, Ellis, Rusch, & Heal, 1993).

Still another article with similar methodology is advanced by Thornton (1992). Thornton indicated that a critical but often over-looked aspect of benefit cost analysis is an assessment of the uncertainty inherent in all program evaluation. The level of uncertainty is highest for evaluations of new prototype programs such as supported employment and decreases as the programs are replicated in a number of persons. An understanding of the causes and magnitudes of uncertainty is essential for interrupting and using cost benefit analysis. This is illustrated, according to Thornton, in the literature which pertains to benefits and costs of transitional and supported employment.

In related papers associated with cost, Kregel, Hill, and Banks (1988) did an indepth analysis of employment specialist intervention time for first jobs of 51 clients with moderate and severe retardation. This analysis has importance, because it focused on the amount of staff intervention time provided as a percentage of the total number of hours worked by the client each week and a comparison of the amount of intervention time that was provided to two subsamples. Results from this study indicated that clients previously classified moderately and severely mentally retarded did not require significantly greater amounts of intervention time than those who were previously classified as borderline or mildly retarded during the first year of employment.

The astute reader will recall that one of the earlier studies in this literature review by Sowers et al. (1979) suggested that persons with low I.Q.'s would not be able to work competitively or that they would take tremendous amounts of time to be successful. The Kregel et al. (1988) paper cited here provides an 8 year empirical analysis that clearly provides information to the contrary.

Other related papers in the financial and cost analysis area have also been advanced by West, Wehman, Kregel, Kreutzer, Sherron, and Zasler (1991) who looked at the cost of operating supported work programs for clients with traumatic brain injury. These costs ranged from 250 to 300 intervention hours per client in an initial placement. West, Kregel, and Banks (1990) also studied the likelihood of clients in supported employment receiving fringe benefits. Their study indicated that only 64% of supported employees received fringe benefits. Most recently Sale, Revell, West, and Kregel (1992) reported supported employment fiscal activities from 50 states. Data from a survey of fiscal year 1990 related to supported employment fiscal activity across the U. S. are presented and sources of different funds are compared to previous surveys. Supported employment expenditures grew approximately 19% from 1989 to 1990, with non-vocational rehabilitation dollars accounting for over two-thirds of the total state dollars going into supported employment.

Summary

It would appear as we move ahead into the 1990's that more and more program oriented benefit cost analyses will be necessary on a larger scale in order to determine the cost of intervention, and equally important, the relative importance of benefits and gain vs. costs incurred. On a similar level of analysis, it is essential to look within state and across state fiscal aggregates of funds expended for supported employment, and even more importantly, the source of where these funds are being derived.

Serving the Underserved and Unserved

A third major area of literature which evolved in supported employment through the 1980's was the isolated and periodic attempts at placing individuals who were not labeled as

mentally retarded into supported employment. It is important to remember that in the first six to eight years most supported employment programs involved only individuals with mild, moderate, or severe mental retardation. However, as it became clear to many that supported employment was an effective alternative to enhancing competitive employment outcomes, people with other disabilities began trying to gain supported employment services for themselves.

Bond (1987) wrote that historically vocational rehabilitation for persons with psychiatric disabilities has been ignored, and their employment prospects regarded as poor. In an initial paper that began to look at this group's involvement in supported employment, he identified two models of supported work and transitional employment and summarized vocational research for clients with psychiatric disabilities. In similar fashion, Danley and Anthony (1987) reported what they called the "choose-get-keep" approach to supported employment. This approach attempts to take the place-train model of supported employment and modify it somewhat for people with psychiatric disabilities. Isbister and Donaldson (1987) also write eloquently about the program development issues related to supported employment for people with psychiatric impairment.

In a recent paper that provided more empirical evidence about supported employment outcomes for people with psychiatric disabilities, McDonald-Wilson, Revell, Nguyen, and Peterson (1991) reported on the outcomes for 212 individuals with psychiatric disability. The findings revealed that the average intervention time for the first 52 weeks of placement was 95 hours. Food service, custodial jobs, and warehouse work made up over 60% of all placements with $4.50 per hour, the average wage for individual competitive jobs. Job retention was low: only 31% after 12 months. Bond and McDonel (1991) discussed vocational rehabilitation outcomes for persons with psychiatric disabilities, particularly when a supported employment model is used. To these writers, it was increasingly clear that people with psychiatric impairment

can benefit from supported employment. Wehman (1991) noted that approximately 25% of all individuals reported nationally in supported employment programs have been labeled as having a psychiatric impairment. This is almost an 80% increase from earlier data in 1987.

Supported employment programs have also been attempted with people with severe visual disabilities. Apter (1992) reported that people with severe visual disabilities have had significantly reduced opportunities for obtaining employment or have been employed in jobs that have not matched their abilities. He reported that the Pittsburgh Blind Association established a supported employment program that increased opportunities for competitive employment and that this program has been extremely successful. Specifically there have been positive program outcomes in terms of types of placements, job retention, wages, and benefits. The individual placement model of supported employment has been used almost exclusively in this program. Griffin and Kendall (1989) also provided a useful discussion on how supported employment can be used and modified for people with visual impairment. They specifically discussed the roles of team members and strategies for effectively implementing supported employment for people with severe visual impairments.

Another group of people that has received increasing attention for supported employment have been those individuals with physical impairments particularly those with cerebral palsy. For example, West, Callahan, Lewis, Mast, and Merevi (1991) indicated that a multi-state demonstration project was initiated for those trained in the use of supported employment technology for persons with severe cerebral palsy. This article reported on the results of the project after two years including the nature of the individuals served by the project, the outcomes achieved, and the problems encountered. As data that will be reported in the next section of this literature review indicate, people with cerebral palsy and other physical disabilities make up less

than 2% of the overall numbers of individuals in supported employment in the United States today. This paper by West et al. (1991) is, unfortunately, one of the very few data based reports of any magnitude showing how supported employment can be used to assist this group.

Persons with traumatic brain injury and physical disability have also benefitted from supported employment. For example, Wehman, Kreutzer, West, Sherron, Diambra, Fry, Groah, Sale, and Killiam (1989) reported on the preinjury/postinjury supported employment work histories of 20 persons who survived a severe head injury. All of these persons had a very limited or inconsistent work history postinjury due to the severity of their injuries. These problems were reversed once supported employment programs were put into place using an individual placement model. An expanded sample of individuals using a similar model is reported by Wehman et al. (1990). In this paper, 43 persons with severe traumatic brain injury were placed into competitive employment with approximately 70% retention rate one year later. This was a group of people who had been in a coma or had extended periods of unconsciousness for up to two or three months at a time period and who faced very debilitating cognitive and physical problems during the long term rehabilitation process.

In perhaps the only comparative study that looked at supported employment outcomes across neurologic, psychiatric, or physical disability; Wehman, Revell, Kreutzer, Callahan, and Banks (1991) examined the participation in competitive work via supported employment for 278 persons with severe disabilities. Differential outcomes were described for persons with chronic mental illness, cerebral palsy, traumatic brain injury, and dual diagnosis of chronic mental illness and mental retardation. Results indicated that supported employment was an effective means of assisting these historically unemployed individuals to acquire and maintain work. However, cross disability group differences were found in areas such as hourly wages, type of employment, services provided by employment specialists, and job retention outcomes.

Summary

The results presented in this section provide a small beginning in the right direction for supported employment program development and service delivery models with populations other than those people who have mental retardation. It is increasingly evident that individuals with chronic back pain, spinal cord injury, hearing impairment, autism, as well as those groups already mentioned above, can be beneficiaries of a supported employment approach.

National Survey Data and Policy Analysis

The final area of this literature review involves a brief discussion of a number of the different policy analysis and national survey data papers that have begun to emerge as a result of the national implementation of supported employment programs. One of the earliest papers by Kregel, Shafer, Wehman, and West (1989) reported that supported employment for persons with developmental and other severe disabilities has moved rapidly from university based demonstration projects to the development of comprehensive statewide service delivery systems. This article reported on a survey of 27 states that received major systems change grants from the U.S. Department of Education to convert traditional day activity programs to supported employment. Outcome data from fiscal years 1986 to 1988 was reported in which vocational rehabilitation expenditures approached 75 million dollars and obligations from mental health and mental retardation agencies increased by 460%. Collectively over 214 million dollars had been obligated by federal and state agencies for supported employment when this report was published. This amount of money and effort is remarkable, indeed, considering that less than 10 years proceeding this time supported employment was nothing more than a handful of isolated demonstrations scattered around the country.

A follow up paper by Shafer, Wehman, Kregel, and West (1990) showed that a survey of 27 states had received federal supported employment grants. There was an increase of 150%

(10,000 to 25,000) during a three-year period of time. Furthermore, over **1,400** programs of supported employment were authorized by state agencies during this time. Individual placement options remain prevalent as did the beneficiaries of these services being people with mental retardation. Similarly, Shafer, Revell and Isbister (1991) reported that over a 3 year period, 32,000 people were receiving supported employment.

At the same time these studies were occurring, Kiernan, McGaughey, Shalock, and McNally (1988; 1991) reported a wide ranging and comprehensive survey of day programs for people with disabilities in the United States. The Kiernan et al. studies looked carefully at the service and closure activity associated with vocational rehabilitation system for persons with mental retardation and related conditions. They indicated that the largest percentage of people receiving services were individuals with mild or moderate mental retardation. They further indicated that the addition of supported employment appears to have reduced utilization of sheltered employment as a closure option for those with severe disabilities.

In another paper that looked at national outcome data, West, Revell, and Wehman (1992) showed that from the time period of 1986 to 1990 a total of **74,657** supported employment participants were reported by state agencies with over **2600** provider agencies. While persons with mental retardation continued to be the primary service group, there has been a dramatic increase in the proportion of supported employment participants with mental illness. The availability of extended services funding was found to be limited across a number of disability groups. Funding is clearly the overriding policy issue for supported employment service providers as they seek to improve and expand their programs.

Supported Employment: What are the Major Areas of Need for the 1990's?

What then do we have to look forward to as we come into the 1990's given the progress that has been made to date? What are the specific needs faced by this increasingly popular

approach? **First, fewer than 10% of all individuals currently participating in supported employment have physical disabilities, traumatic brain injury, autism or sensory impairment, and yet there is a tremendous interest and need for services among many of these people.** Therefore, expanding opportunities for underserved or unserved populations of severe disabilities is one very definite need. We must learn better ways to modify supported employment models to accommodate the vast range of needs presented by the many different disabilities. We must study and disseminate ways to include minorities with disabilities, most of whom have been forgotten.

A second area of need that must be further developed is the expansion of alliances with business and industry, particularly in light of the implementation of the Americans with Disability Act and the greater responsibilities in which business will need to take in establishing reasonable accommodation and nondiscriminatory hiring practices. The need for job coach liaison with natural business support is stronger than ever. This is viewed as a very important issue, since the need for providing natural supports for people with disabilities will be made much easier with strong business alliances. The recently passed Rehabilitation Act Amendments of 1992 directly include natural supports as a vehicle for extended services.

A third area which was discussed heavily in the late 1980's, but which very little progress has been made is the area of long-term funding. A major nemesis of many well established programs which prevents individuals with the most severe disabilities from gaining access to services is the lack of ongoing support dollars to maintain the covenant that is made with business upon the initial hiring. As state and federal governments get their fiscal house in order, the long-term funding area will need continued legislative and administrative policy attention.

Fourth, there continues to be an ongoing need to improve supported employment technology and the efficiencies with which this technology is delivered. We need to know more about how to facilitate employment for people with the most severe disabilities. We need to know how to

assist individuals who have been employed for a number of years so they can advance into more competitive better paying positions. We also need to know how to integrate the use of assistive technology advances in robotics, computers, and electronics in such a way as to empower the job coach and consumer when working at the job site.

Fifth, we must continue to improve our ways of delivering technical assistance to those local programs converting to supported employment, recruiting and training new job coaches, or who need help with new populations. Training and technical assistance is very high on future issue needs, since technology is of little value if it cannot be broadly delivered. Consider comments made at the National Conference of State Legislatures by the Task Force on Developmental Disabilities (February, 1991):

> "Despite the advantages of supported employment, the bulk of state employment funds for persons with disabilities still goes to sheltered workshops and other segregated settings. In 1988, federal and state governments spent between $385 and $582 million to place 109,899 people with developmental disabilities in sheltered workshops at a per capita rate between $3,500 and $5,300. In the same year, only $62 million was spent on 16,458 people in supported employment, at a per capita rate of $3,767. The challenge facing state legislators is to develop methods to transfer people currently in day programs and sheltered workshops into the competitive work force successfully." (p. 28)

Sixth, we must reach out to the consumers and their families to study choice and self-determination processes in the context of vocational planning. The need for informal choice in supported employment programs on the part of consumers is a paramount concern. Seventh, there is a strong need for practical and applied research which state VR agencies can use quickly to help in program implementation. We need to be highly responsive to the calls for help and assistance from state VR agencies. They must be major implementations in this process.

Finally, we cannot possibly overlook the continuing large gaps in job coach training, both at the preservice, as well as continuing education levels. Cohen and Pelavin (Sept., 1992) in their 1992 Survey of Personnel Shortage in Vocational Rehabilitation indicated that supported employment specialists are in very short supply as reported by VR agencies. Supported

employment vacancies of 210 were noted in this survey when the position was vacant for at least 90 days with total of 450 positions unfilled nationally. Table 1 in the appendix of this paper reflects this need. In summary, the supported employment needs of the 1990's include the following:

Needs in Supported Employment
1. Fewer than 10% of all individuals currently participating in supported employment have physical disabilities, traumatic brain injury, autism, or sensory impairment. However, there is a tremendous interest and need for services among many of these people.
2. A second area of need that must be further developed is the expansion of alliances with business and industry. This is a very important issue since the need for providing natural supports for people with disabilities who have been hired will be made much easier with strong business alliances.
3. A third area which was discussed heavily in the late 1980's, but in which very little progress has been made, is the area of long-term funding.
4. There continues to be an ongoing need to improve supported employment technology and the efficiencies with which this technology is delivered.
5. We must continue to improve our ways of delivering technical assistance to those programs who are converting to supported employment or who need help with new populations and recruiting and training new job coaches.
6. We must reach out to the consumers and their families to study choice and self-determination processes in the context of vocational planning.
7. There is a strong need for practical and applied research which state VR agencies can use quickly to help in program implementation.
8. Finally, we cannot possibly overlook the continuing large gaps in job coach training, both at the preservice, as well as continuing education levels.

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Appendix

Table 1
Number of Budgeted and Unfilled Positions by Occupation at Outside Providers of Purchased Services that State Directors Report Difficulty Obtaining

Professional Specialty Mentioned by State Directors	Estimated Number of Positions Budgeted	Estimated Number of Unfilled Positions	Estimated Vacancy Rate	Estimated Number of Positions Vacant for at Least 90 Days	Estimated Percent of Positions Vacant for at Least 90 Days
Orientation and Mobility Specialists	192	34	17	26	13
Physician/Physiatrist	332	25	8	13	4
Psychologist/Psychiatrists	1194	35	3	12	1
Rehabilitation Engineer	51	0	•	•	•
Technology Specialist	134	7	•	•	•
Vocational Evaluator	1701	21	1	2	0
*Supported Employment/Job Coach	6592	450	9	210	4
Interpreter for the Deaf	191	49	•	•	•
Job Development Personnel	3503	164	5	10	0
Other Occupations with High Vacancy Rates					
Rehabilitation Nurse	3943	279	7	193	5
Physical Therapist	2904	356	13	152	8
Occupational Therapist	1976	303	15	200	10
Speech/Language Pathologist	1472	138	9	99	7
Social Worker	2605	269	10	158	6

• **Less than 30 organizations in our sample employed personnel in these professions.**

NOTES: For the reasons discussed in the introduction, these estimates have not been adjusted for non-response. Therefore, these numbers underestimate the true national figures.

From: Cohen,J., & Pelavin, D. (1992). 1992 survey of personnel shortages and training needs in vocational rehabilitation. Washington, D.C.: Pelavin Associates, Inc.

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