

Chapter 8

Supported Employment Phase II: Job-Site Training and Compensatory Strategies

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Job-site training is an important element in supported competitive employment and one of the characteristics that clearly differentiates it from traditional vocational rehabilitation approaches. An employment specialist or job coach is a pivotal person in job-site training. This person works one-on-one with the individual with a traumatic brain injury to provide individualized and consistent support services. Employment specialists play many roles and must be skilled job developers, job analyzers, job organizers, instructors, case managers, advocates, and more. This chapter will describe employment specialist job-site training activities using real cases to exemplify successful strategies.

When an employee with a traumatic brain injury begins a new job, the employment specialist accompanies the employee to the job site and stays with him or her until job performance is stabilized. Depending on the needs of the employee, employer, and job site, this may take weeks or even months of daily or weekly intervention. The employment specialist provides skill training to the new employee and also makes certain that all job duties are completed to company standards. This latter point is extremely important because, as part of supported competitive employment, employment specialists guarantee to an employer that job duties are completed to company standards from the first day of employment.

ORIENTATION AND ASSESSMENT

The initial period of job-site training is known as orientation and assessment. The employment specialist often drives the new employee to and

from work for the first few days of this period. Although transportation training may be needed later, this initial travel support reduces the stress of having additional tasks to learn initially. Returning to work postinjury can be frightening and stressful for the new employee, and the employment specialist's job includes transitioning the worker from the home to work environment.

To familiarize the new employee with the work environment, the employment specialist and employee should also arrive early on the first day of employment. Time spent orienting the new worker to the layout of the work area, break room, and restrooms will help reduce feelings of disorganization for the worker.

On the first day, the employment specialist should assign the worker one or more tasks with which he or she is familiar or which require low supervision from the employment specialist. This will allow the worker to develop confidence in his or her abilities and to complete other job duties, and give the employment specialist time to reassess and modify the task analyses and work and training schedules. The employment specialist may need to reinforce the worker frequently to reduce the stress of learning new skills and beginning a new job.

Orient the Worker to the Work Environment

The employment specialist should organize a daily routine for the worker to follow at the job site, eliminating decisions such as which door should be used upon entering and leaving the job site and identifying times for breaks and lunch. Training the worker to follow this routine will reinforce time awareness and reduce disorientation and decision making. A job duties sequence form or checklist may be used to meet this need. Exhibit 8-1 is a morning checklist developed by one employment specialist for a worker. It provides the individual with an organized, sequenced routine to follow each morning while preparing for work. The procedure will help the individual arrive at the job site on time with the necessary materials to perform the job.

The employment specialist should diagram the work station, including maps outlining routes to surrounding areas such as staff restrooms, exits, supervisor's office, and lunch rooms. Figure 8-1 diagrams the work area of an employee who works as a pot scrubber in a large urban hospital. All areas in the kitchen have been included in the diagram, including areas in which the employee does not perform job tasks.

Diagraming the work area and related environments enables the employment specialist to identify orienting difficulties that may occur as a result of the layout. Although the specific work area may not present any orienting problems for the individual, the surrounding environments may. In Fig-

Exhibit 8-1 Morning Home Checklist

10:15 a.m.

	Sun	Mon	Tue	Wed	Thurs
1) Reset Alarm					
2) For Work: Hat					
Pencil					
Tablet					
Wallet					
Lunch Ticket					
Keys					
3) Turn off coffee pot					
4) Lock sliding glass door					
5) Shut windows					

LEAVE HOUSE AT 10:30 a.m.

* If you are late: call 755-9333;
ask for the kitchen and tell them you are on
your way

ure 8-1, the shaded area represents the employee's work area. The employee has the option of three kitchen exits to access surrounding pay phones, bank, gift shop, cafeteria, restrooms, payroll, waiting area, and outside exits and entrances. Identifying these possible orienting concerns during the initial stages of training allows the employment specialist to include route training in the overall orientation training program.

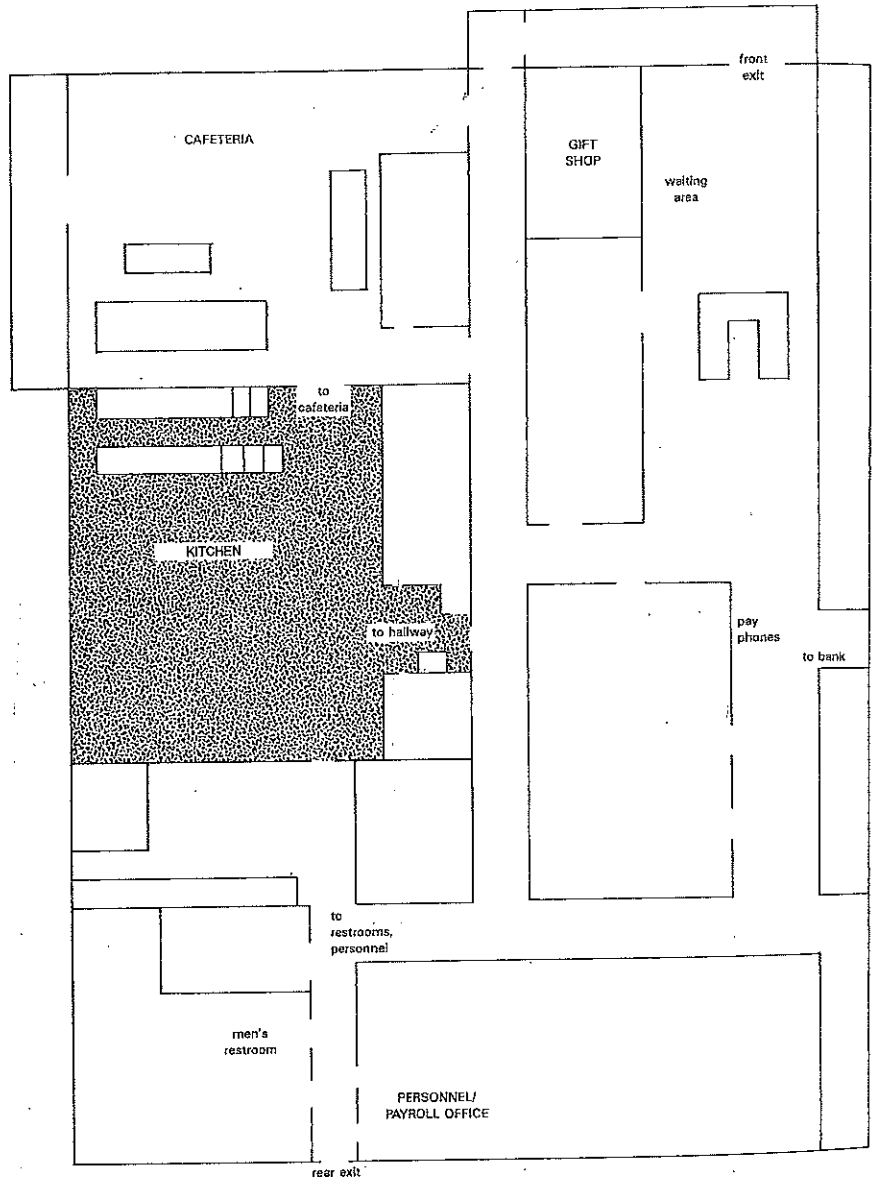


Figure 8-1 Diagram of Employee's Work Area

Orient Worker to the Community

If the worker does not drive, the employment specialist should discuss transportation options with the individual and, when appropriate, with the family. The pros and cons of each option should be discussed to select the one most appropriate for that individual. A transportation program should be designed to begin on the second or third day of employment.

Although some workers with traumatic brain injuries may drive, they may need transportation training to drive efficiently to and from the job site. This systematic training may involve the employment specialist transporting the worker the first week, following the worker the second week while he or she drives, and then meeting the worker at different landmarks or at the job site the third week. It may be helpful to provide written or pictorial directions to and from work. The directions may be attached to the dashboard of the worker's car, along with numbers to call if help is needed.

Before placement, the employment specialist should have spent 1 or 2 days shadowing a coworker or doing the job that the worker has been hired to complete. This gives the employment specialist hands-on experience in completing the job and an opportunity to develop a primary task analysis (Exhibit 8-2) and determine job duty sequence (Exhibit 8-3). During the critical first days of employment, this thorough preparation and organization by the employment specialist will reduce confusion and stress for the worker.

Modify/Adapt/Restructure

Before the individualized job duty task analyses are finalized, the employment specialist needs to assess and implement any necessary job modification/adaptations. Providing such modifications before the employee's first day on the job will eliminate one source of unnecessary frustration for the employee and provide an enhanced environment for skill training. Job modifications also must be related to task analyses. For example, if assessment information indicates that the individual is distractable, then the employment specialist can examine the environment with an eye toward reducing noise levels, work environment activity, and changes in routine and lighting that will hamper employee performance. Because it is not possible to foresee all necessary adaptations during the first few weeks of training, this need may surface later in the training process.

Task Analyze Job Duties

Task analysis is the process of breaking a task or job duty into smaller, discrete behaviors. A comprehensive task analysis is based on coworker ob-

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Exhibit 8-2 Primary Task Analysis

Employee: <u>Robert</u>									
Environment: <u>Grayton Cafeteria</u>									
Instructional Cue: <u>Prepare for</u>									
<u>Dinner</u>	6/14	6/15	6/16	6/19	6/20	6/21	6/22	6/23	6/26
1. Fill cart with ice and ice trays	+	+	+	+	+	+	+	+	+
2. Place ice in salad bar	+	+	+	+	+	+	+	+	+
3. Get salad bar cart from "walk-in"	+	V	+	+	+	+	+	+	+
4. Remove all lids in Kitchen	V	+	+	+	+	+	V	+	+
5. Place utensils on cart	+	+	+	+	+	+	+	+	+
6. Bring cart to dining room	+	+	+	+	+	+	+	+	+
7. Set up cart beside salad bar	+	+	+	+	+	+	+	+	+
8. Prepare soup tureen	V	+	+	+	V	+	+	+	+
9. Determine garnish for entrée	V	V	+	+	+	+	+	+	+
10. Place garnish on salad bar	+	+	+	+	+	+	+	+	+
11. Serve dinner	+	+	+	+	+	+	+	+	+
12. Clean up	V	+	+	+	+	+	+	+	+
13. Punch-out	+	+	+	+	+	+	+	+	+
Total Steps Correct	9/13	11/13	13/13	13/13	12/13	13/13	12/13	13/13	13/13
Percent Correct	69%	84%	100%	100%	92%	100%	92%	100%	100%
Instructional Code:									
(+) = Correct V = Verbal Prompt (-) = Incorrect M = Model/Gestural Prompt P = Physical Prompt									

Exhibit 8-3 Sequence of Job Duties

Daily	
11:00 a.m.-noon	1) Punch in; get apron; wash hands 2) Go to serving line to check: a. salad bowls b. plates c. napkins d. glasses 3) Make decaf. coffee 4) Set iced tea out—next to soda machine (refrigerator in buffet area) 5) Get cart & load it up with . . . a. water glasses b. silverware c. coffee cups and saucers d. bread plates e. napkins 6) Set up three tables for lunch
Noon-1:00 p.m.	7) Serve lunch, attend line, NOT DISHES!
1:00-1:30 p.m.	LUNCH
	8) Break down serving line 9) Wash dishes 10) Wash remaining dishes 11) Fill up salad bar containers (make sure you can put lids on!) a. vegetables are rotated (old used first) every day! b. Tuesday and Thursday empty and clean all: 1) cottage cheese 2) pasta salad 3) cole slaw, etc. 4) salad dressings 5) yogurt
4:00 p.m.	12) Push finished cart into walk-in (refrigerator) 13) Clean up area 14) Fill salad bar with ice 15) Take filled salad cart out of walk-in and set up salad bar
4:15-4:30 p.m.	Break, or after salad cart is finished
5:30-7:00 p.m.	DINNER 16) Set up garnishes—write down what garnish goes with what
7:00-7:30 p.m.	17) Clean up

servations, employer interviews, and employment specialist hands-on working in the specific job duties. The majority of task analytic development should occur before the first days of employee training, but task analyses will need to be rewritten and refined during the first few weeks of training.

All job duties for which the employee is to be trained should be task analyzed. The last step for each task should be the beginning or the set-up step for the next task in the sequence of job duties. This will enable the employment specialist to train the employee to sequence job duties. Omitting this link between individual tasks may result in acceptable skill acquisition and production standards on separate tasks but an inability of the employee to sequence work duties.

The employment specialist may not be able to obtain the pre-employment information needed to write a comprehensive task analysis before employment begins. At a minimum, major job tasks and duties, their sequencing, and the time allotted for their completion should be recorded before the first day. Identification of any changes in job duties throughout the day and use and care of equipment are also important information to record.

When the final job duty analysis has been completed, the employment specialist should meet with the supervisor to make sure it meets company approval. This will allow the employment specialist to make any changes in duties or routine early in the training phase. A set schedule will decrease confusion for the worker, who may experience difficulty with changes of routine (Gilbert, 1978).

After the worker has completed 2 weeks of employment, the employer should be asked to complete a supervisor evaluation (Exhibit 8-4). This evaluation gets the supervisor involved in the training process, provides the employment specialist and worker with a concrete tool to gauge progress, and identifies areas that need improvement. A worker self-evaluation can also be conducted at this time (Exhibit 8-5), which gives the worker a chance to evaluate his or her perception of job performance. The employment specialist and worker should discuss any discrepancies between the two evaluations.

The employment specialist then should complete a written progress report and review it as appropriate with the worker and family members. This allows for continual, proactive communication with all involved individuals.

INITIAL TRAINING AND SKILL ACQUISITION

The second phase of job site training is known as initial training and skill acquisition. By collecting baseline or test data on task performance before initiating formal skill instruction, the employment specialist can determine how

Exhibit 8-4 Supervisor Evaluation

Employee: Name: _____ SSN: ____/____/____	Staff: Name: _____ I.D. Code: _____
Company: Name: _____ I.D. Code: _____	Date: __/__/__ mo. day yr.

How was this evaluation completed? 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 situation:

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

	1	2	3	4	5
How satisfied are you with this employee's . . .					
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: _____

Name (print): _____ Phone #: (____) _____

Signature: _____

Source: Form developed by the Rehabilitation Research and Training Center, Virginia Commonwealth University, in cooperation with the Virginia Departments of Mental Health and Mental Retardation and Rehabilitative Services (Revised 9/87).

much of each skill the employee can perform independently. If possible, baseline data should be collected for several days to ensure that they are stable. Besides providing the employment specialist with accurate task analyses of employee performance, baseline data can highlight the need for job restructuring or modification/adaptations that could lead to enhanced job performance.

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Exhibit 8-5 Employee Self-Evaluation

Employee:		Staff:		
Name: _____		Name: _____		
SSN: ___/___/___		I.D. Code: _____		
Company:		Date: ___/___/___		
Name: _____		mo. day yr.		
I.D. Code: _____				
How was this evaluation completed?		Personal Interview _____	Phone _____ Mail _____	
Using the following scale, please check <u>one</u> number to the right of each question that <u>best</u> represents your opinion about your current work performance:				
1	2	3	4	5
Extremely Dissatisfied	Somewhat Dissatisfied	Satisfied	Very Satisfied	Extremely Satisfied
			1	2
			3	4
			5	
How satisfied are you with this employee's . . .				
1. . . . timeliness of arrival and departure from work? _____				
2. . . . attendance? _____				
3. . . . timeliness of breaks and lunch? _____				
4. . . . appearance? _____				
5. . . . general performance <u>as compared to other workers?</u> _____				
6. . . . communication skills? _____				
7. . . . consistency in task performance? _____				
8. . . . work speed? _____				
9. . . . quality of work? _____				
10. . . . overall proficiency at this time? _____				
Do you wish to meet with a representative from the program?				Yes / No
Additional Comments: _____				
Signature: _____				
Source: Form developed by the Rehabilitation Research and Training Center, Virginia Commonwealth University.				

To collect baseline data, the employment specialist uses the task analyses to observe and record initial employee performance on each of the job duties. After providing the work cue, the employment specialist should not provide any prompts or reinforcement. Moon, Goodall, Barcus, & Brooke (1986) outlined two methods that can be used to collect baseline data. The one selected should depend on the employee's learning style and the nature of the tasks. In the first method, initial performance is assessed on every step of the task analysis. If the step is completed correctly, a (+) is scored

and the employee continues to work until an incorrect response is initiated. A (-) is recorded for an incorrect response and the employment specialist sets the worker up for the proceeding step in the task analysis. In this method the baseline is ended and training is initiated when all steps in the task analysis have been tested. In the second method, the baseline ends the first time the employee makes an error. This step and all remaining steps in the task analysis are scored (-). Training begins on the first missed step.

Establish a Training Schedule

Having determined the initial performance level of the employee, the employment specialist now decides the order in which the employee will be trained in job duties. During this initial training period, the employment specialist must ensure that company production standards are met. The employment specialist must select tasks that will enable him or her to provide training as well as maintain production standards by performing some of the tasks. A training schedule also assists the employment specialist with identifying peak time periods during the day for training and maintaining productivity.

Provide Systematic and Quality Instruction

The initial training and skill acquisition phase includes training on job tasks as well as training in related skill areas, including orientation (e.g., exits, cafeteria, vending machines, restrooms, personnel office, pay phones), social skills, and personal hygiene. Determining a training schedule for some of these skills will be difficult because instruction must occur as the situations arise. However, planning for these events in advance ensures that all skills will be taught in a systematic fashion.

The specialist can train employees in these related skills also by using a task analysis and systematic instructional techniques. Behavioral therapy methods also can be effective. This involves conducting a thorough behavioral analysis, closely monitoring progress, and applying behavioral therapy methods. Turkat and Behner (1989) have pointed out that these methods are not limited to reward systems.

Hegel (1988) demonstrated the utility of applied behavioral analysis in the rehabilitation of adults with head injuries. He reported improved compliance to rehabilitation therapies and decreased disruptive vocalizations in a subject by combining contingent reinforcement, goal-setting, and an extinction procedure. Cognitive behavioral methods, such as teaching, practice, reinforcement of appropriate responses, compensatory strategies, and overlearning of correct and incorrect responses, also have proven effective in remediating so-

cial interactional skill deficits in individuals who had sustained a traumatic brain injury (Giles, Fussey, & Burgess, 1988). Similar strategies should be explored and implemented by the employment specialist.

Choose Individualized Instructional Strategies

Individuals who sustain severe brain injury have a number of cognitive deficits (Conder et al., 1988). These deficits—which may include reductions in memory, reasoning, orientation, attention, visual perception and discrimination—vary among individuals and represent areas in which the employment specialist must provide individualized training. Selection of instructional strategies and prompts should be done using information from the neuropsychological evaluation, information obtained from the referral, initial intake information, and client preference.

Prompts and Cues

Use prompting and cueing strategies that take into account an individual's deficit areas and learning styles and will allow the worker to learn correctly from the beginning. Selected prompts should provide the necessary instructional assistance for the employee to achieve independent performance of the entire job. Exhibit 8-6 outlines general guidelines for delivering instructional prompts.

Prompt hierarchies consist of a sequence of two or more levels of prompts arranged systematically and delivered in either a least-to-most or most-to-least intrusive order (Snell & Zirpoli, 1987). Variations in prompting hierarchies may be appropriately developed using file assessment information for individuals who have sustained a traumatic brain injury.

Verbal prompts are generally considered least intrusive. However, this prompting style may not be suitable for some individuals who have sustained a traumatic brain injury. Kewman, Yanus, and Kirsch (1988) examined distractibility in auditory comprehension of traumatic brain injured individuals in everyday situations where competing or distracting auditory stimuli were present. Results showed that individuals who have sustained a traumatic brain injury have greater difficulty with an auditory comprehension task when distracting vocal stimuli are either present or absent.

The next level of prompt is generally a model. For some individuals, file assessment information may indicate that modeling may not be an appropriate strategy because the individual does not imitate well. The employment specialist must be creative and develop alternatives. Alternatives to model prompts can include specific task-related cues. For example, when prompting an individual to begin work at a computer terminal the employment specialist can begin with a verbal prompt by saying, "Turn the keyboard on." Or, the employment specialist can provide a less direct verbal

Exhibit 8-6 General Guidelines for Delivering Instructional Prompts

1. Peruse file information to determine cues and prompting strategies that respond to the individual's cognitive and sensory assets.
2. Model calm and appropriate behavior.
3. Arrange the environment to ensure that there is the least amount of stress possible.
4. Focus on a specific goal and discuss with the individual.
5. Reinforce.
6. In the event of confrontation or agitation, redirect and reinforce appropriate behavior.
7. Provide feedback to the individual and encourage feedback on the part of the individual.

Sources: From *Contemporary Challenges to the Rehabilitation Counseling Profession* (pp. 217-242) by S.E. Rubin and N.M. Rubin (Eds.), 1988, Baltimore: Paul H. Brookes Publishers. Copyright 1988 by Paul H. Brookes Publishers; and "Programme Description. An Interdisciplinary Programme for Cognitive Rehabilitation" by R. Conder et al., 1988, *Brain Injury*, 2(4), pp. 365-385. Copyright 1988 by Taylor & Francis, Inc.

prompt by asking, "What is next?" The next level of prompt might be a gesture toward the computer switch. Paraphrasing important instructions and prompts can facilitate the rehearsal process.

Seldom have intrusive prompts, such as physical prompting, been needed or proven useful for workers with traumatic brain injuries. Often the worker is resistant to being watched over and an employment specialist must recognize this and choose appropriate prompts. Richard, for example, uses an executive pocketbook developed by his employment specialist. This pocket-sized notebook provides a permanent record of his sequence of job duties and the tasks involved in each duty. This strategy assists him with memory and sequencing difficulties while accommodating his preference for learning independently.

Memory impairment, a common and enduring consequence of severe, closed head injury, has been found to be resistant to many cognitive rehabilitation strategies (Godfrey & Knight, 1988). Long-term cues such as Richard's executive pocketbook often must be left in place to effectively deal with these memory impairments on job sites. The employment specialist must be cognizant of the individual's memory impairment while planning prompts and cues and training tasks.

Use Rationales

Systematic training coupled with an explanation or rationale often enhances learning by heightening attention and raising awareness. This

strategy can arrest, correct, and/or disallow for rehearsal of an incorrect technique and can provide replicable instructional strategies. Using rationales, the employment specialist not only makes the employee aware of what he or she is expected to do, but also explains the method that he or she should use and why.

Incorporating an explanation in the instructional format was used with David in his porter position at a bowling alley. Although he reached skill acquisition on nearly all tasks during the first week of employment, he still had difficulty with dry mopping. David could move the mop from side to side but did not overlap the paths that he mopped. As a result, streaks were left where the mop had not reached. File information indicated that before his injury, David had owned a home. So the employment specialist asked David if he had ever mowed a lawn. David responded that he had mowed his lawn numerous times. Using this information, the employment specialist explained to David that the overlapping skill required for thorough dry mopping was identical to the overlapping skill required to thoroughly mow a lawn. If the paths of the lawn mower did not overlap, then tufts of grass were left behind exactly as dust and dirt would be missed if the dry mopping paths did not overlap. This explanation enabled David to perform the dry mopping task without error.

Select Reinforcements

Reinforcement is anything that increases the likelihood of a behavior occurring or increasing. Reinforcement should be given frequently at first and thinned out as the job placement proceeds. The employment specialist must be certain that any reinforcement chosen is actually reinforcing to the worker. Determining elements in the work environment that are natural reinforcements (e.g., paycheck, paid vacation, and supervisor and coworker praise) might eliminate the need to introduce secondary reinforcements.

However, if there are not enough naturally occurring reinforcers to maintain job performance during the initial training phase, the employment specialist may need to introduce secondary (artificial) reinforcers (e.g., taking the employee out to dinner or providing movie and theater tickets) or may have to program more frequently occurring natural reinforcement. Asking a coworker or supervisor to provide feedback to the employee for a completed job is one example of programming natural reinforcers. Although reinforcers that occur naturally are considered the best reinforcement method, programming reinforcement can be useful also and can teach coworkers when and how to deliver praise as a reinforcement.

The employment specialist must monitor the amount of reinforcement because it can lose its value if used too often. The employment specialist should determine an optimum range and pairing of reinforcers. For exam-

ple, Ronald, a hospital employee, was required to stand while he performed his job. Although a rubberized mat had been added as a cushion, Ronald found that standing for long periods was tiring. Therefore, he found breaks and the opportunity to sit down and smoke a cigarette very reinforcing. The work schedule allowed for a naturally occurring 15-minute break in the morning and again in the afternoon. To program these reinforcements more frequently, the employment specialist adjusted the daily work schedule to include two breaks in the morning and two breaks in the afternoon. Instead of two 15-minute breaks, Ronald takes four 7-minute breaks and has more opportunities to sit, rest, and smoke.

Use Contingency Contracts

One method for systematically delivering reinforcement is to develop a written contingency contract or agreement signed by the employee and the employment specialist. A contingency contract (Exhibit 8-7 is an example) provides a permanent written record of the actions required by the employee to receive the reinforcement. Contingency contracts can be valuable tools to assist with training if they are developed mutually by the employment specialist and the employee. This process enables employees to be active participants in the development of assistive learning strategies.

Regardless of the type of reinforcement used, the employment specialist should always label a reinforcement. This tells employees why they are being reinforced. For example, the comment, "Great job double checking your work, Rob" makes the employee understand the reason he received reinforcement.

Compensatory Strategies and Adaptations

Compensatory strategies have been defined as the deliberate self-initiated application of sometimes unconventional procedures to achieve desired goals (Ylvisaker & Holland, 1985). These are adjustments an individual makes to get around a problem and therefore succeed at the desired task.

Compensatory strategies and adaptations have been extremely effective in providing successful job-site training for persons with traumatic brain injuries. Developed as the individual encounters difficulty with issues or tasks associated with job success, compensatory strategies range from the simple to the complex and from the expensive to cost-free and can be taught to the employee or may develop spontaneously. Because of this variability, the worker should always be involved in developing compensatory strategies to increase their acceptance and likelihood of success.

Compensatory strategies include work environment modifications, adaptive equipment, and reorganization of business equipment. Self-recording checklists, picture cues, elevated tables, a magnifying glass, and adaptive

Exhibit 8-7 Employee Contingency Contract

IF I CLEAN UP MY WORK AREA AT THE
END OF THE DAY ACCORDING TO THE
PICTURE CHECKLIST FOR

FIVE (5) CONSECUTIVE DAYS. . .

I WILL RECEIVE

TWO TICKETS TO A

RICHMOND BRAVES BASEBALL GAME

April 7 George Pastor
Date Employee

April 7 Amy J. Moore
Date Employment Specialist

reaches for high shelves are examples of individualized modifications that may enable an individual to successfully perform a job task. Identical compensatory strategies used with individuals with similar deficits have proven to be differentially effective (Penn & Cleary, 1988).

The individual's postinjury work history may provide useful strategies in developing compensatory skills, or family members can often provide effective ways of dealing with specific disabilities. During home visits, the employment specialist can gather information from family members on strategies that may be in use at home.

Compensatory strategies are an effective and frequently necessary complement to job-site training. Appropriate adaptations allow the worker to be

more independent, decrease the employment specialist's intrusive intervention, and allow more positive interactions between trainer and consumer.

Pietruski, Everson, Goodwyn, and Wehman (1987) encourage professionals to use standard, nonadapted work supplies and equipment and help the individual to adapt them. Many times a creative employment specialist can analyze a job-site situation and arrange an adaptation or compensatory strategy that is inexpensive, unobtrusive, and practical. Many individuals may require physical adaptations to perform their jobs successfully. Physical changes should be made to the environment, not to the individual, to increase independence in the workplace. If the individual is using a wheelchair, for example, the work station or desk/table may need to be raised and bookshelves redesigned to make them more accessible to the individual.

For complex modifications, consult with physical therapists, occupational therapists, and rehabilitation technologists to analyze and develop appropriate strategies. Kreutzer, Wehman, Morton, and Stonnington (1988) outlined a three-step process used to develop compensatory strategies: (1) neuropsychological evaluation to determine the person's strengths and weaknesses, (2) task analysis to evaluate the work setting and the step-by-step processes needed for job completion, and (3) development of a series of specific instructions or materials to be used at the work site.

Adaptations can compensate for a deficiency or lack of ability in three broad categories: cognitive, physical, and other.

Cognitive

Persons with brain injuries may have a variety of cognitive deficits. These problems include memory loss, inability to recall information, sequencing or organizational difficulties, slow processing of information, overload of stimulation/information, decrease in motivation, distractibility, lack of insight, inability to globalize, episodic dyscontrol syndrome, and difficulty planning and seeing cause and effect. These deficits may be present in a number of different combinations depending on the areas of brain damage and diffusion of the injury.

Cognitive deficits, whether organic or functional, are major obstacles for the head injured individual in community and work reintegration and should be addressed when adopting compensatory strategies for the worker. Organic disorders are caused by the injury itself, while functional disorders may come from the person adapting to the injury. Considerations that should be kept in mind when choosing compensatory strategies include:

- cognitive level of the individual
- utilization of the senses that are most functional
- severity of self-selected strategies
- effectiveness of self-selected strategies

- individual problem-solving ability
- effectiveness of compensatory strategies in a work setting

Physical

Physical injuries can be subcategorized as physical and neurophysical. Physical injuries may include broken bones, lacerations, and severed limbs. Neurophysical injuries, those resulting from the injured brain, may include ataxia; poor fine-motor coordination; weakness in one side; double or tunnel vision; spasticity; balance problems; deficiencies in olfactory, touch, taste, and hearing senses; and limited range of motion. These deficits, if not compensated, play a major role in employment problems.

Other

This category refers to deficits that are indirectly related to cognition, have an uncertain origin, or originate because of psychological problems due to the traumatic change in personality and lifestyle a brain injury causes. These problems might include episodic dyscontrol syndrome or behavioral problems.

Compensatory Strategy Case Study

Mark is a microfilm clerk in the accounts payable division for a national electronics and appliance retail company. He is a 34-year-old married man who was injured in a single-car accident at age 30. He was driving his pickup truck home after drinking several beers, ran off a country road, and struck a tree. Mark sustained a severe brain injury, numerous lacerations, and a severe leg injury. Since his accident, he walks slowly with the aid of a leg brace, has static nerve palsy in his right leg, right-hand ataxia, and left eyelid droop. Mark complains of sun sensitivity and blurry vision in his left eye. His speech is slow and gruff but comprehensible.

Mark held a variety of preinjury jobs, including house painter, roofer, automobile body repair and painter, maintenance worker, and unit dietary clerk while in the Marines. Because of his physical limitations and his past work experience, Mark expressed interest in pursuing a clerical position. A position was found after several months of intense job development.

Mark's job duties as a microfilm clerk include boxing and organizing documents, pulling staples, straightening documents, microfilming all processed work, and filing and retrieving microfilm tapes. Initially, Mark had difficulty remembering the correct steps required to complete job tasks. For example, he would begin to photocopy documents but would forget to ensure checks were electronically marked using a switch on the microfilm machine.

His neuropsychological evaluation indicated that he retained information easier when it was presented in writing and it recommended using enlarged

print due to Mark's blurry vision. Given this information, a task analysis was developed and implemented during training by the employment specialist. Mark was able to reach 100 percent acquisition rapidly using the task analysis. However, several weeks after reaching acquisition, he forgot several steps. Mark was retrained and provided with an enlarged copy of the task analysis, which was mounted on the wall in front of his work station. Mark quickly learned to use this compensatory strategy.

Mark's job required fine-motor skills when pulling staples, straightening documents, paper-clipping files, and fingering through stacks of papers. His fine-motor coordination and dexterity had been affected by his injury, resulting in low production rates causing him a great deal of frustration. The employment specialist and Mark created inexpensive, practical modifications that enabled him to increase his productivity to an acceptable rate and decrease his frustration. Modifications included a bowl in which to place paper clips, enabling him to dig for clips rather than struggle to pick one off the table top; butterfly clips and giant-size paper clips replaced the original smaller-size clips; textured rubber fingertips assisted him with filing through stacks of paper; and magic marker caps covered and protected critical switches that he would accidentally trip due to his ataxia. All these modifications combined cost less than \$5.00 (see Table 8-1). The employer furnishes replacements when the paper clips run low or rubber fingertips wear out.

Table 8-1 Job Modifications and Costs for Mark

<i>Description of Situation</i>	<i>Modification</i>	<i>Application</i>	<i>Manufacturer</i>	<i>Approximate Cost</i>
Lost time in trying to pick up paper clips from table top	Giant-sized paper clips & bowl	Replaced all small paper clips with giant ones; implemented bowl for easier pick up	Giant clips; any plastic bowl of appropriate size	\$1.00
Difficulty filing through stacks of papers	Rubber fingertips	Wears rubber fingertip on index finger to assist faster filing	Local office supply store	15 cents each
Accidentally tripping switches on microfilm machine/not aware of correct switch postures	Magic marker caps Notes	Placed caps over critical switches to prevent accidental tripping; placed notes on machine near corresponding switches to indicate proper positions	Employment specialist made	None

Train/Record/Revise

The employment specialist must first train for skill mastery, then for production proficiency. Revisions to instructional strategies should be based on employee progress evidenced in direct observations and data collection. Changes should be undertaken only after conferring with the employee. Data collection identifies emerging patterns and potentially troublesome areas that may surface in the fading and follow-along phases. In some situations, the employment specialist can assist the individual in the learning process by reanalyzing a difficult task analysis step and breaking it down further or, if appropriate, removing the step and selecting another method.

Or, instructional strategies may need revision because the employee may demonstrate during training an alternate method to accomplish the task. If this method accomplishes the same result and is efficient, then the employment specialist will need to revise the program to accommodate this revision. Before introducing any modifications however, the employment specialist and the employee should consider all options and decide which is the best method.

Some production problems may be resolved with an adaptation. Sign in/out procedures for Ronald, for example, were identified as a problem. Limited vision and a physical disability allowed Ronald to use only one hand to find his name in a payroll book and then to record his time in/out. Ronald required approximately 15 to 20 minutes daily to complete this task. The employment specialist analyzed the problem and determined that by attaching a "binder clip" (Exhibit 8-8) to the appropriate payroll sheet, Ronald could more quickly find his name in the payroll book. A cup hook was placed on the bulletin board above the sign in/out table so that the clip could be placed there when the payroll sheets were sent to accounting. This adaptation considerably reduced the amount of time Ronald spent signing in/out, thus allowing more time for him to perform work duties.

At times, it may be appropriate for the employment specialist to discuss troublesome areas with the work-site supervisor. The supervisor may provide valuable input to resolve an issue or may decide that methods developed by the employment specialist are more efficient than current practices.

In this initial training and skill acquisition phase, then, the employment specialist must be aware of two essential steps: First, instructional prompts, cues, and compensatory strategies must be presented systematically to facilitate performance of required tasks; second, employees must be provided the opportunity and time to practice or rehearse skills. This will enable workers to improve their job performance quickly and efficiently.

STABILIZATION

Stabilization is the third and final phase of job site training. How can the employment specialist determine when the initial training period has been

completed and an employee has stabilized? Stabilization, as defined by Hill (1987), occurs when the relative percentage of intervention time for the employee is less than 20 percent of actual work hours for 2 consecutive weeks. It is important to determine when stabilization has been reached so that the employment specialist can begin fading (i.e., limiting additional intervention). An employment specialist should consider skill acquisition, production rate, self-reinforcement and delayed gratification, on-site advocacy, medication stabilization; and emergency planning when planning fading.

Ensure All Tasks Are Trained

After Mark, the microfilm clerk in accounts payable, had reached 100 percent acquisition of skills and had increased his production rate to meet employer standards, the employment specialist began systematically fading from the site. As the employment specialist began to fade, boxes of already completed work began to pile in the microfilming office. A coworker asked Mark why he had not taken the boxes to storage. Mark responded that he had never been shown where these specific boxes were to be stored. Mark felt angry at the employment specialist for neglecting to show him the appropriate storage area and he felt embarrassed and inadequate in front of the coworker. The employment specialist had become so involved in training two more involved and difficult aspects of the job that he neglected to train for this seemingly minor duty. The employment specialist had been completing this task so that Mark could concentrate on the major duties of his job.

In this example, neglecting to train all job tasks created instability and required the employment specialist to return to the job site with Mark until he was able to complete all job duties independently. Ensuring that all job tasks are trained initially is a critical part of ensuring stabilization.

Ensure Production Rate

Once an individual is able to perform all the job duties, the employment specialist begins specific productivity interventions. Production rate will increase during initial training and skill acquisition with fluctuations from time to time. The employment specialist must verify an employee's productivity before beginning fading procedures.

Use Self-Monitoring and Self-Reporting

The employment specialist may determine that a self-monitoring procedure will ensure all tasks are performed productively. Priddy, Mattes, and

Lam (1988) and Burke, Smith, and Imhoff (1989) caution about using self-report assessments. Priddy et al. found that lack of orientation and memory deficits among brain injured adults can influence reliability of self-report assessments. Burke et al. (1989) found that cognitive deficits in comprehension, memory, and self-awareness after brain injury had a significant impact on self-report indices.

However, self-monitoring procedures have proven successful as both training and stabilization strategies for some individuals with traumatic brain injuries. Graphs and charts can assist workers with monitoring and assuming responsibility for maintaining their own job performance. For example, Mark had strict production quotas set by his employer. Mark did not realize his responsibility to meet these production standards because the employment specialist always completed the work Mark was unable to complete. Before fading, the employment specialist explained to Mark that he needed to process at least 250 checks per day to remain employed. The employment specialist used assessment graphs and showed Mark how to graph his daily performance (see Figure 8-2). After several weeks of self-monitoring, Mark graphed his progress and reached two of his preset goals, thus surpassing the employer's quota of 250 checks per day. For Mark, self-monitoring was an effective training strategy that was used to facilitate stabilization.

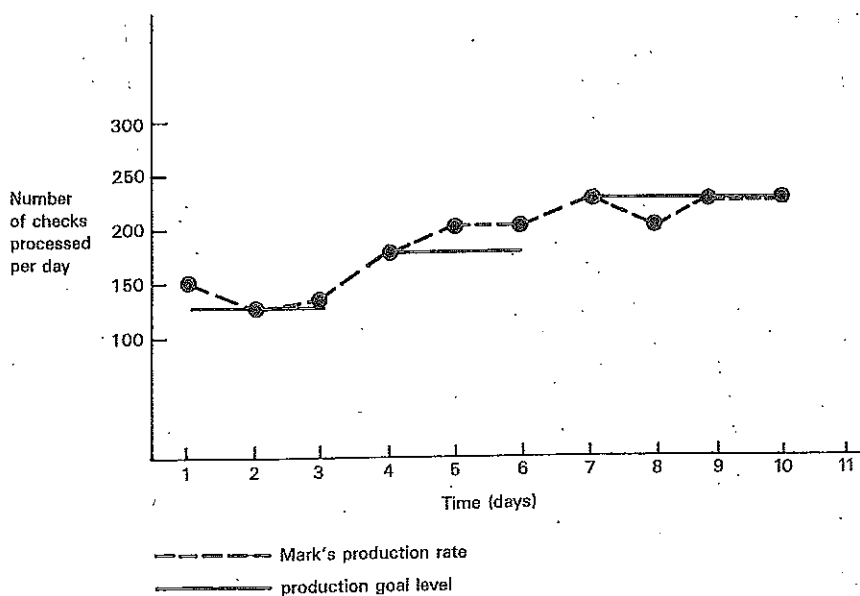


Figure 8-2 Example of Using Changing Criteria Design To Increase Employee Productivity

Use Self-Reinforcement

Teaching the employee self-reinforcement techniques facilitates stabilization and fading. For example, if the supervisor approves, the worker may be taught to self-initiate a break when he has completed a task ahead of schedule.

Self-reinforcement with delayed gratification may enable employees to realize they are in control of their own performance. This is also an appropriate stepping stone toward letting workers assume responsibility for their work success.

Use Advocacy

Advocacy does not occur at a specific time during the training process but is an ongoing role employment specialists assume during all phases of employment. Employee advocacy involves an active series of interventions by the employment specialist to enhance skill acquisition and maintenance of performance standards (Kreutzer et al., 1988).

During stabilization of employment for individuals with traumatic brain injuries, advocacy activities take many forms. Utilizing coworkers or supervisors as advocates at the job site is a critical component for successful employment for many individuals returning to work after sustaining brain damage.

Advocacy may include a coworker who is aware of any special situations with which the consumer may need assistance, a supervisor who has been given a list of steps to take in case of seizures, a store manager who has the employment specialist's phone number to use when problems arise, or a bus driver who prompts the employee to get off at a specific bus stop.

One part of advocacy is making sure employers are confident that they will be able to handle any issue if it arises. Although the employment specialist has shown coworkers and supervisors how to interact with the employee by effectively interacting with him or her in their presence, often coworkers feel hesitant to initiate interaction with the employee. If this interaction has not developed naturally, the employment specialist can arrange situations, such as eating lunch together, where the employee is likely to interact with coworkers. The employment specialist acts as a liaison between coworker and employee by actively participating in the interaction until rapport has been established and positive, appropriate interactions are taking place.

Coworkers often seek counsel from the employment specialist on interacting with the worker. Questions are typically directed at dispelling fears and discovering how to effectively interact with the worker—What should I do if . . . ? Is it O.K. to . . . ? Without infringing on the worker's confidential-

ity rights, the employment specialist can dispel unfounded fears and suggest communication methods that have worked most effectively for them. It may be easier and more appropriate to direct the coworker to the employee to ask these questions. The employment specialist can again act as a liaison or buffer if the situation becomes uncomfortable.

Monitor Medication

It is not uncommon for persons who have sustained traumatic brain injuries to experience seizures or epilepsy after an accident. Taken on a regular and consistent basis, medications may stabilize or reduce the effects of seizures. However, workers must be able to manage these and other medications on and off the job site.

Employment specialists must be aware of these issues and assist with medication monitoring to ensure stable work performance. Close monitoring and prompting by the employment specialist help to ensure stabilization. First, the specialist must be sure the worker is able to determine the correct dosage to take. Second, the employment specialist needs to create a constant and continuous prompt that will continue after he or she has faded from the job site. One such technique is to purchase a wrist watch that sounds an alarm each time medication is to be taken and to pair the alarm with taking the appropriate dose of medication. Third, the employment specialist should monitor the worker's performance and ensure that he or she is able to manage the medication properly and consistently.

Ensure Emergency Planning

After training has been completed and fading has begun, the unexpected will occur: A car breaks down or medication runs out. Although it is impossible to foresee every circumstance that will affect work stabilization, proactive intervention can reduce their negative impact. For example, a list of steps, including the employer's phone number, could be placed in the glove compartment of the worker's car. In case of break down or minor accident, the worker would have a task analysis (list of steps) designed to walk him or her through the unforeseen crisis. Another example might be setting up a medical appointment before the worker's supply of medication expires or making a note for the worker to refill his or her prescription on a specified date. These types of interventions take foresight and planning by the employment specialist. However, they may be essential aspects of supported employment intervention to ensure stabilization at the job site.

Plan for Fading

Once all job tasks are stable or a compensatory strategy has been implemented, a specific fading schedule should be planned and scheduled. Two essential features should be considered in establishing a fading schedule: Fade slowly so that the worker gradually begins to perform the job independently and use data to determine particular tasks or times during which intervention may still be needed.

Fading of prompts is a gradual process in which prompts and reinforcement are reduced to less intrusive and more natural prompts and reinforcers. The employment specialist must monitor data during the fading process to ensure that the employee's performance does not decrease.

Although fading of prompts and cues is desirable, it may be necessary to keep some in place, especially if a sign, picture, or checklist corresponds to the individual's compensatory need and is not obtrusive in the environment.

Several factors support including the employee in the fading process. First, the employee may feel reinforced by the absence of the employment specialist because it indicates that the worker is performing successfully at the job. Allowing the worker to experience the decision-making process also may increase rapport and strengthen the employment specialist/worker relationship. Finally, the employment specialist can use this time to verbally reinforce the employee for hard work and effort and point out that the specialist will always be available to assist the employee with work-related issues.

On the other hand, trying to include an overly dependent employee in fading of the employment specialist may initiate new, undesirable behaviors by the employee. In this case, not including the employee in planning the fading schedule may be more beneficial to maintaining job performance.

During fading, use a calendar to highlight intervention. As time progresses, gradually decrease either the time of daily intervention or the amount of intervention days. The monthly planning calendar will enable a quick visualization of intervention reductions. It also will aid the employment specialist's supervisor in planning, the employer in facilitating communication with the specialist, and the employee in knowing when to expect the employment specialist.

SUMMARY

The use of individualized and systematic instructional and compensatory strategies throughout the intensive job-site training period is crucial for successful employment of individuals with traumatic brain injuries. The employment specialist, or job coach, is a pivotal person in providing these services. Working closely with employees, employers, coworkers, families, and other service providers enhances successful employment.

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