ABSTRACT
        Intended for use with supported employment job
coaches and job developers as well as business and industry
personnel, the training module is part of a kit designed to
demonstrate how individuals with disabilities and older persons can
be assimilated successfully into the labor force. This module
explains the systematic process needed to successfully employ people
with special needs. It is intended to allow businesses, industries,
and employing agencies to work cooperatively to design training and
employment programs that meet the needs of the individuals with
special needs, employers, and rehabilitation personnel. An
introduction explains how to use the module, providing information on
desired competency of participants in the training sessions, target
audience, instructional objectives, materials needed, instructions
for trainers, and a choice of instructional sequences for the eight
training sessions. Chapters have the following titles: "Setting a
Career Goal"; "Functional Job Analysis"; "Assessing the Individual";
"Making a Successful Job Match"; "Adapting the Workplace"; "Specific
Training Strategies for Integrated, Supported Workplaces"; "Effective
Training Techniques"; and "Social Competence and Job Performance."
About 100 references. (DB)

Module III

Accommodating Individuals with Special Needs in the Workplace

Job Match

TOGETHER
FOR GOOD BUSINESS

ACCOMMODATING INDIVIDUALS WITH SPECIAL NEEDS IN THE WORKPLACE

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February 1987

CAUR

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Successful Job Matching and Job Placement Systems for the
Developmentally Disabled and the Older Worker

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Acknowledgments

While serving as Commissioner of the Administration on Developmental Disabilities, I had the opportunity to develop an Employment Initiative Campaign for employment of workers with disabilities. I am pleased to say that our campaign goals have not only been achieved, but exceeded. This success is due to the dedicated efforts of Governors' Planning Councils, various government committees and commissions, and, most importantly, employers who share our vision of economic self-sufficiency for all Americans with special needs. We have come a long way; more persons with disabilities are working but we still have far to go.

In the next century, the public and private sectors must work together toward a better transition for people with developmental disabilities from special education programs into the world of adult challenges and opportunities. Work provides not only financial benefits, but therapy; it contributes to self-identification and self-worth and is an economic necessity for most of us. The Employment Initiative offers great challenges and opportunities for developing and implementing creative approaches to this transition.

Researchers at the Center for Applied Urban Research, University of Nebraska at Omaha, found that many myths and stereotypes exist. They found that labels such as "disabled" and "older worker" sometimes create barriers to employment for these workers who have job skills but who also have special needs. Their investigation into the employment programs serving both individuals with disabilities, and older persons, revealed the need for closer cooperation between the public and private sectors. While some employers fear that accommodations will be elaborate or expensive, they are often very simple and inexpensive. Frequently, the employee can identify the best solution to the problem.

A vast and valuable pool of individuals with special needs are available and qualified for work. Although training materials exist to explain how employers can meet legal requirements, few provide specific information about developing partnerships between employers and human service agencies to tap the resources of workers with special needs. These materials will be useful to employers and will foster a job match that creates good business.

Jean K. Elder, Ph.D.
Assistant Secretary
for Human Development Services

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MODULE III

ACCOMMODATING INDIVIDUALS
WITH SPECIAL NEEDS IN THE WORKPLACE

How To Use This Module

The purpose of this module is to explain the systematic process needed to successfully employ people with special needs (individuals with disabilities and older individuals). This process may seem most useful to j b developers and job coaches whose primary role is vocational training and job development. However, much of the material, particularly the chapters on job analysis (3), job matching (4), and adaptations (5) will be equally useful to employers. This training kit provides information that allows businesses, industries, and employing agencies to work cooperatively to design training and employment programs that meet the needs of individuals with special needs, employers, and rehabilitation personnel.

Competency

Readers will be able to identify factors which are critical for employment success by persons with special needs and to discuss implementation measures for each factor.

Target Audience

Supervisory and management personnel in business and industry and job developers.

Instructional Objectives

Readers will:

1. Identify the key elements in setting career goals.

2. Analyze the components of functional job analysis.

3. Select assessment strategies to assist perscns with special needs who want to enter the job force.

4. Discuss the strategies integral to successful job matching.

5. Discuss the various environmental accommodations necessary for persons with special needs and outline other strategies that can ensure job success.

6. Identify and discuss the key elements of training persons with special needs.

7. Discuss the relationship of social competence to job performance and identify ways to overcome social incompetence.

Materials Needed:

Trainers will need this training module and the accompanying audio-cassette tape. They should also review the videotape "Job Match: Together for Good Business" and the other instructional modules included in this series.

Instructions for Trainers:

Trainers should read this module and examine the works listed at the end of the module. They may find that additional reading is required. Trainers should also review the audio-cassette tapes and the videotape included in this kit.

Instructional Sequence:

The material can be taught in eight 60-minute sessions in the following sequence:

Setting a Career Goal
Chapter 1

Functional Job Analysis
Chapter 2

Assessing the Individual
Chapter 3

Making a Successful Job Match
Chapter 4

Adapting the Workplace
Chapter 5

Specific Training Strategies for
Integrated, Supported Workplaces
Chapter 6

Effecting Training Techniques
Chapter 7

Developing Social Competence
Chapter 8
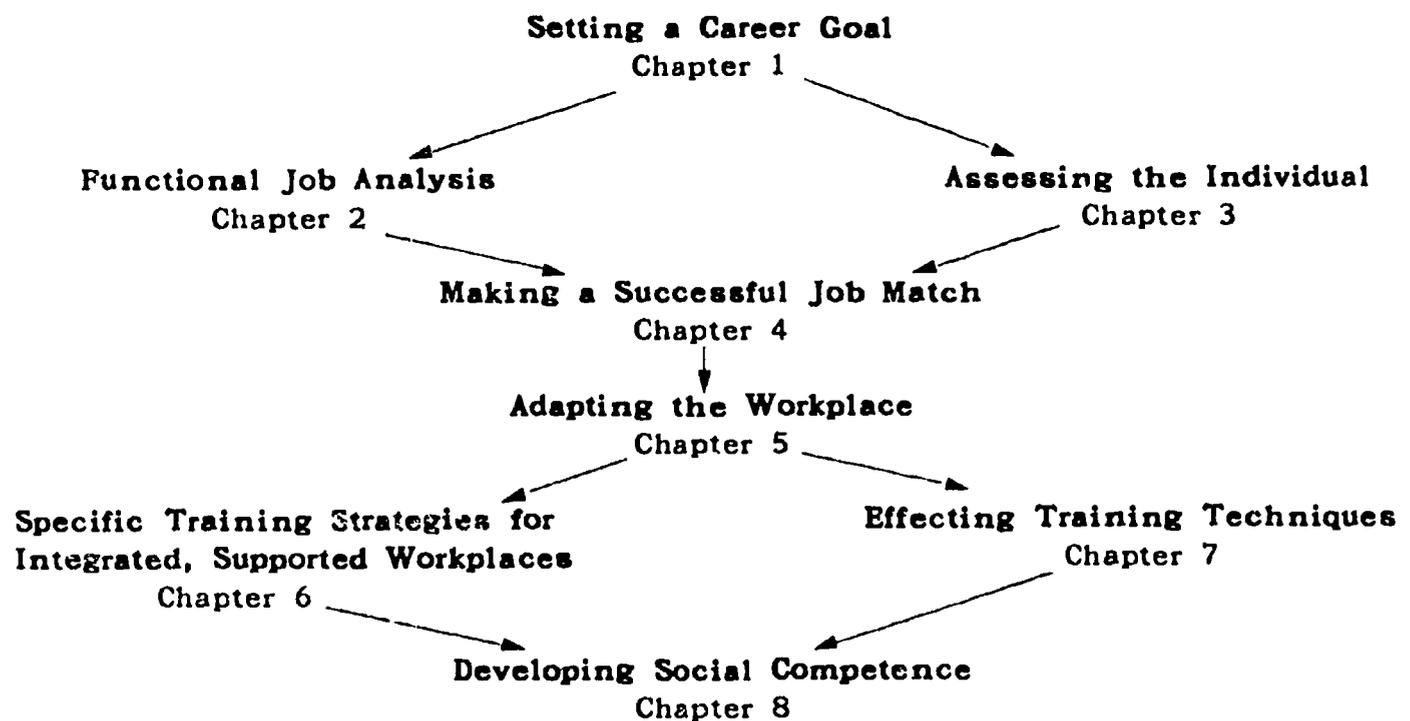
Participants should read each section prior to the training session. At the beginning of each session the trainer should review the content of the chapter(s) in a 20-30 minute lecture. Ample time should be allowed for questions and discussion.

During the last 15 minutes of each session, small discussion groups should examine the following key considerations:

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Session 1. How has goal setting been important in each individual's personal life?

Session 2. Work out a functional analysis for a job with which several members of the group are familiar.

Session 3. Has assessment been a key factor? If so, how effective was it?

Session 4. Was an appropriate job match made? Was a written plan developed?

Session 5. Consider the environment of the building where the training session is located. What changes would be needed to accommodate someone in a wheelchair? Someone who is blind? Someone who can not read?

Session 6. Will a job coach be needed to provide support to the person on the job? If so, what are the responsibilities of the job coach?

Session 7. Consider the training strategies outlined and describe how they would apply to a job with which the group is familiar.

Session 8. What social skills are important in the participant's work environment? What social incompetencies would not be tolerated? How can social competence be taught?

Contents

Chapter 1

Setting a Career Goal

Karen Faison and Lois Rood

Assumption of Ultimate Functioning

The material presented in this training kit is based on the assumption that all people, regardless of age or disability, have the right to live and work in their communities. It is based on the premise that isolation is not natural--that separation of people because of labels wastes valuable human potential. The authors assume that all people, to function fully as human beings, must have the opportunity to live and work together.

Recognition of Limitations

Some people live with disabilities all of their lives while others encounter physical and mental limitations as they age. These limitations must be recognized and adaptations must be made. However, limitations should not restrict work opportunities or justify segregation, dependence, and unproductive lives.

Power of Expectation

The authors recognize the power of expectation. In fact, expectations are powerful indicators of results. Belief in one's ability to perform and others belief in the individual are important factors for success. If human service workers do not believe that individuals with disabilities or older workers (individuals with special needs) can achieve success, they will probably fail. If agency personnel do not believe that physical or mental disabilities can be overcome, then the resources and supports will not be channeled to promote success.

A Clearly Stated Goal--The First Critical Factor of Success

Goals set expectations. Goals which cannot be imagined will never be achieved. If specific goals are not set, most dreams are not attainable. Most people have experienced goal setting in one form or another. An important part of business planning is the establishment of goals.

Individual goal setting defines direction and focuses support, assistance, and training needs. Without it, job

Goals Set
Directions

developers and employers may make decisions for individuals with special needs that do not reflect their personal wishes, dreams, interests, aptitudes, and values.

Individuals' goals must enhance their overall quality of life. Thus, goals include several areas:

- Individuals with special needs should have more power over their lives, lifestyles, and situations.

- Individuals with special needs should become more autonomous. Options should increase, and they should feel that more choices are available.

- Individuals with special needs should be able to have meaningful affiliations with other people. These relationships should help individuals with special needs develop their potential and, at the same time, provide emotional support.

- Individuals' senses of achievement and self-esteem should increase as well as their ability to contribute to their communities.

Ask Both
"What Is" and
"What for"

When planning focuses on "what is" (the current situation), but not "what for" (the goal), the planning process is incomplete. Energy, money, and resources are wasted. Personal motivation occurs when one is working toward a specific result. Dreams are attained by establishing goals. Persons with goals will resolve difficulties as they work with determination toward achieving their dreams.

Success
on the
Job Begins
with Setting
the Right
Goal

Goal setting for people with special needs is an important part of the successful job search. The first step must be to determine the individual's job or career goal. If this is not done, the persons who are assisting in planning may fall into the all-too-familiar trap of assessing and preparing individuals for work in which they are not interested or for which there is no market. Job success or failure depends on this critical factor; if interest is lacking, the job may be performed

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half-heartedly and the worker may be considered a poor employment risk.

To avoid such problems, human resource developers should:

■ Monitor planning sessions where individuals determine their likes and dislikes and preferable work environments.

■ Help individuals determine areas of interest and set general goals. At this point it is not necessary to be too specific, but an individual's strengths and the job market should still be analyzed.

The Goal Reflects the Person's Aspirations

When goals are set, planning parameters; become sharper. Goals determine the direction of a job search and set guidelines for assessment. Mostly, they affirm that individuals with special needs are the most important part of the planning process. Goals reflect aspirations.

The Career Path

Writing general long-range goals helps to establish an individual's commitment to a dream and a career path. By establishing a specific career path during the initial stages of the planning process, a simpler, more efficient approach to assessment, training, and job selection is guaranteed.

After the goal is established, assessment begins. The establishment of a career goal ensures a functional efficient assessment. Individuals can be assessed according to the tasks and settings that relate to their goals. This type of assessment leads to functional problem solving and effective intervention strategies.

Training is most effective when it is geared toward a specific job. Time should not be wasted preparing persons for tasks they will never perform. Instead, potential jobs can be task analyzed, and individuals can be trained to perform these tasks. When the job match begins, job seekers can direct their efforts toward jobs for which they are trained.

Thus, the assessment process, the training process, and the job matching process all focus directly on one goal—acquiring a specific type of job.

Criteria for Selecting and Evaluating Goals

The following personal criteria are important to consider when selecting and evaluating goals for individuals.

Moral Congruence

The first and most important criterion is that goals must agree with value systems. People will not be able to achieve goals that are incompatible with their values.

Goal Ownership

Goals should be set by individuals with special needs and not by others. Sometimes a need to please and impress others influences the choice of goals. However, if goals are chosen by others, it is unlikely that they will be met.

Natural Ability

Goals should highlight natural abilities. Meeting goals requires discipline, consistency, and effort. Individuals should capitalize on their skills to attain goals.

Energy Producing

All persons encounter difficulties when they strive to meet goals. Individuals are most able to sustain effort when they choose goals that are energy producing rather than energy consuming. By choosing such goals, the time spent working toward them becomes a priority because the individual enjoys doing it. For example, a person who plays music becomes a musician, but a person does not become a musician in order to play music.

Criteria for Selecting and Evaluating Career Goals

*Important
Criteria
for Job
Developers*

Five important criteria must be examined carefully when setting career goals: legal rights, community presence, community participation, competence enhancement, and status enhancement (O'Brien and Lyle, 1987).

Legal Rights

Persons with special needs have the same legal rights as those afforded other citizens of the United States. These include the constitutional rights listed in the Bill of Rights and all others enacted by Congress.

*Vocational
Rehabilitation
Act*

Some laws relate specifically to persons with developmental disabilities. Among these are several that relate to the right to work, specifically, the right to work in the least restrictive setting available. Section 504 of the Rehabilitation Act of 1973 states:

> No otherwise qualified handicapped individual in the United States, shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance.

*Sections 503
and 504 Equal
Opportunity*

The law is designed to protect persons who have any physical or mental impairment which substantially limits one or more life function, who have a record of such disabilities but are not presently disabled, and those who are not disabled and never have been but are regarded by others as being disabled. Sections 503 and 504 of the Rehabilitation Act of 1973 relate to equal opportunity in the workplace. While they do not guarantee employment, they refer to the provision of opportunities similar to those enjoyed by persons who are not disabled.

This legislation stresses placing persons with special needs in the most integrated settings available. Therefore, it should be a prime consideration of persons who are working to find jobs for individuals with special needs.

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Developmental
Disabilities
Act

In 1984, Congress passed amendments to the Developmental Disabilities Act, which also contains a strong statement on the need to provide services in the least restrictive setting. It states:

> Persons with developmental disabilities have a right to appropriate treatment, services, and habilitation for such disabilities; and the treatment, services, and habilitation for a person with developmental disabilities should be designed to maximize the developmental potential of the person and should be provided in the setting which is least restrictive of the person's personal liberty.

The intent of Congress seems clear; human service professionals should try to provide individuals with special needs opportunities in the least restrictive settings that are appropriate for their needs.

Age
Discrimination
Employment Act

The Age Discrimination Employment Act addresses the problems of older workers. It prohibits discrimination in employment on the basis of age for persons who are 45 and older. It legis! tes against discriminatory terminations and started a movement to abolish mandatory retirement.

Employment
Options

Several states (Ohio, Pennsylvania, and Florida) are actively developing employment options for older workers. Job banks are being established, employment specialists are being trained, and, in Florida, a statewide information bank lists and describes older workers and their skills.

John O'Brien (1986) identified four accomplishments of which consumers can never get too much: Community presence, community participation, competence enhancement, and status enhancement.

Community Presence

Accessibility --
a Critical
Factor

Goals should specify that individuals with special needs should live in their communities, in places where culturally normative behaviors and appearances are emphasized.

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Accessibility is a critical factor in determining whether community services are available. Without accessibility, added burdens may be placed on individuals with special needs. Therefore, planning should consider the environment into which the individuals will move and the availability of services in the environment.

Jobs Should Allow Community Presence

In vocational planning, emphasis should be placed on assisting individuals with special needs to find jobs that are performed in the presence of nondisabled and younger workers. Much attention has been directed toward firms that train people to work on computers and then expect them to work at home. Although individuals with special needs may receive suitable wages for such endeavors, these jobs do not allow community presence.

Community Participation

Persons with special needs should have the opportunity to participate equally with nondisabled persons of all ages in the community. Goal statements should reflect the same performance criteria and conditions that are required in the community. For example, if all employees are expected to go to lunch at 12:00 noon and return at 1:00 p.m., then the individual with special needs should be expected to do the same.

Settings Should Match Age of Clients

Goals should recognize the age of the individual in employment setting, job scheduling, and performance criteria. The ultimate goal is to have the settings and social interactions match the chronological ages of individuals with special needs. These persons should be expected to meet all of the performance criteria that are met by other persons of the same age in the same setting.

Competence Enhancement

Marc Gold (1980b) defines competence as "A skill or attribute that someone has that not everyone has, that is wanted and needed by others." The acquisition of competence in at least one area is especially important for persons with

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special needs because such persons are often seen by the public as different, and these differences are valued negatively.

Gold hypothesized a competence/deviance correlation in which the more competence an individual possesses the more of these differences society will tolerate. An older person or a person who uses a wheelchair is often negatively valued by society. They are perceived to be one down from other persons. Because we cannot wave a wand and do away with attributes that are considered deviant, we must work with individuals to help them attain competence in other areas. If the person in a wheelchair is perceived by society to be extraordinarily competent as a carpenter or a computer programmer, then society is likely to value the person for those skills and the deviance becomes secondary.

As career goals are established for any person with special needs, it is important to work toward competence in at least one area. Because work is highly valued by society, persons with special needs should become very capable to compete in the job market.

Often when others plan for persons with developmental disabilities, attention is focused on activities that reduce deviance; that is, on bringing individuals with special needs up to the level of ability that nondisabled people display. Gold calls these zero order skills. Zero order skills might include getting to work on time, performing the job adequately, and punching a time clock. To build competence, individuals should be taught skills beyond those of zero order in areas which are highly valued by others. Good individual career planning strikes a balance between setting goals that are aimed toward reducing the appearance of deviance and those that are related to establishing competency.

Status Enhancement

This is the last accomplishment identified by O'Brien (1986) and it relates to the status that the person with special needs enjoys in the community. Status can be acquired through

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a variety of avenues. A person may achieve status by driving a new car or by wearing clothes that are fashionable. A person can achieve status on the job by performing a task better than anyone else, by achieving a higher rate in production than anyone else, by selling more widgets to competitors than others, or by assembling more computer programs than anyone else. The means of achieving status should be taken into consideration as career goals are developed.

Achieving Excellence

The Process of Achieving Goals

Employers try to hire individuals who are capable of excellence. Charles Garfield (1985), in his studies on peak performers (individuals who perform at a personal and professional standard higher than the average employee), identified the following five factors necessary to achieve excellence.

Sense of Mission or Purpose

Peak Performers Believe Work Has a Purpose

Peak performers identify with a mission that is higher than themselves. These individuals believe that their work has a purpose that is worthy of their best efforts. This mission is also congruent with their sense of life purpose and values.

Measureable Goals

Peak performers also set clearly stated goals for themselves. These goals can be measured against specific standards of performance. These individuals set their own goals, they are not set by others, and their goals are consistent with their sense of mission.

Adequate Resources

Support System

To perform at their peak and sustain effort toward the goal, these individuals can obtain and channel resources in the direction of their dreams. Resources include the materials, tools, and equipment necessary to do the job well; education and training necessary to learn how to perform the job; and

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financial and emotional support. These individuals can increase the helping forces and decrease the hindering forces that affect their ability to achieve their goals.

Useful Feedback

Peak performers also secure accurate, useful, and non-judgmental feedback which helps them continue to improve their performance and attain the standard of excellence they seek.

Meaningful Rewards

Personally Reinforcing

To sustain motivation, people must be rewarded when their behavior is consistent with a goal. Frustration has been defined as effort without reward. If people continue to exert effort without experiencing rewards, eventually the effort will stop. Rewards must be meaningful to the individuals who are putting forth the effort.

Both the goal and the system of rewards for effort toward the goal must be owned by the individual. They cannot be chosen by another person. What is rewarding to one individual may not be rewarding to another. Money is only one type of reward. Opportunity for creativity, quality of working environment, association with peers, recognition, and learning opportunities are also important rewards.

Efficiency Is Important

Human energy is used most productively when each of these phases is in line and on target most of the time. A person's values, behaviors, feelings, support system, and reward system must operate in congruence for the individual to move efficiently toward a goal. Whenever one phase is out of congruence, valuable energy is wasted.

Self-correction Is Necessary

This process tends to be quite idealistic, and parts of this process are not on target most of the time. That is why it is important to have some means for self-correction. Individuals must be able to recognize quickly when their behavior does not match the goal or when they are not obtaining the feedback, the support, or the recourse needed to sustain their

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effort. Awareness first and correction second, without judgment, will sustain individuals toward their goals.

How to Get There from Here

Once a goal is determined, a systematic process is recommended to achieve a particular goal. This process is explained in the following chapters. The next steps are to analyze jobs and assess individuals so that proper job matches can be made. Then, effort should be directed toward providing the proper accommodations, training, and social supports to maximize performance.

Chapter 2

Functional Job Analysis

Barbara T. Judy

Why Analyze Jobs?

Effective
Use of
Skills

Employers seek to have all activities associated with the business occur in an efficient, effective, and timely manner. This is true regardless of the number of employees or the type of product or service that is expected to result.

While many factors contribute to successful management of a business, factors associated with personnel or employees are of key importance. The major categories of work must be identified, and there must be a clear and concise understanding of all of the elements of the activities or tasks to be performed. Then, the employee's skills and knowledge can be used most effectively.

Job Analysis Terminology

In any discussion of work activities, several terms can lead to confusion or misunderstanding if they are not defined clearly. One such term is job description. Wright (1980) provides a hierarchical approach in describing the work activities that lead to a job description.

Element

He begins by discussing a work element, the most fundamental or smallest step of any activity. Placing fingers on the keys of a computer keyboard and exerting the proper amount of pressure to activate a particular key are elements of work.

Tasks

Many elements can be combined to carry out a work task. Task is defined as the logical and necessary steps in the performance of a work activity. Using a computer keyboard to record data is considered a task.

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Position

Next, several related tasks can be combined to be performed by an individual, and can be described as a position within an organization. A worker who uses a computer to enter data derived from several salespersons could have the position of data entry clerk.

Job

Finally, several positions within an organization are defined as a job. When many positions in an organization are similar, they can be included in one job description because all of the positions will include similar job tasks. ABC Company may have several positions with job descriptions for data entry clerks, and each position will require similar tasks to be performed.

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│                                             │
│        COMPONENTS OF A JOB DESCRIPTION       │
│                                             │
│                  Element                    │
│                   Task                      │
│                 Position                    │
│                   Job                       │
│                                             │
└─────────────────────────────────────────────┘
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Job Analysis

The term job analysis encompasses many aspects of a work situation. A job analysis is the process of determining by observation and study and reporting essential information about all aspects of a job. A more detailed definition is a compilation of the detailed description of all of the tasks or operations required in a specific job, a listing of the duties and responsibilities of the position, and a summary of the environmental conditions in which the work takes place (Fera, 1984). This description would identify essential (integral) and nonessential (occasional) tasks associated with the performance of the job.

Included, then, in a job analysis would be information about what a worker does, how the work is done, the anticipated result of the work, the skills or traits required of the worker, and the characteristics of the setting in which the work is performed.

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|                                                       |
|                    JOB ANALYSIS                       |
|                                                       |
|    A job analysis is the process of determining       |
|  by observation and study and reporting essential     |
|  information about all aspects of a job.              |
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Functional Assessment

Job descriptions and job analyses are extremely valuable in understanding work activities and the work environment. A functional assessment is as valuable in evaluating a worker.

Comprehensive Evaluation

The Institute on Rehabilitation Issues (1983), describes functional asses_ment as "an organized and comprehensive evaluation of a person's capacities, behaviors, and limitations which are relevant to his or her vocational potentials." While it is not anticipated that an employer would be engaged in a complete functional assessment of each worker, such information could be useful in some instances. More understanding of the worker's functional characteristics would be of considerable assistance in planning for the optimum placement of workers with physical, mental, or emotional limitations. Bowe and Rochlin (1983) discuss in detail the applications of such assessment strategies for employers.

Ideally, a combination of well-defined job descriptions, a thorough job analysis, and some degree of functional assessment should be helpful to employers. While there is currently no phrase that encompasses these three aspects of employee/employment study, the expression functional job analysis will be used to describe these concepts throughout this chapter. Functional assessment of an individual is discussed in detail in Chapter 3.

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FUNCTIONAL ASSESSMENT

An organized and comprehensive evaluation of a person's capacities, behaviors, and limitations which are relevant to his or her vocational potentials.

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Who Can Analyze Jobs?

Employers or Agencies Can Analyze Jobs

A functional job analysis within an organization or business can be accomplished in many ways. The most complete and detailed evaluations of workers, positions, or work situations are often performed by professionals such as vocational evaluators, job placement specialists, rehabilitation or human factors engineers, or rehabilitation counselors. These persons use many assessment tools, such as specialized tests or skill measurements; detailed, on-site job analyses; medical evaluations; and personal interviews, to make specific recommendations about particular individuals or situations.

The assistance of these individuals can usually be obtained by contacting a local rehabilitation agency or by hiring a private consultant. In many instances, however, such analyses may be accomplished satisfactorily by personnel managers, work supervisors, or other persons who are familiar with the work operations within a business.

What to Analyze

When a functional job analysis is performed, the following factors should be considered carefully.

Specific Tasks to be Performed

Analyze Each Task

Each task (physical and mental) that is required in the performance of a work activity should be identified by careful and close observation. In a previous example, one task involved the collection of data from several salespersons. The physical aspects of this task can be broken down into smaller steps or elements, such as moving to another work station,

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picking up completed sales forms, returning to the original work station, and reading and arranging forms in numerical order.

Observations should be made about the weight of objects or materials that are to be moved, carried, or manipulated; the configuration of objects or materials, and the degree to which materials that are handled can be altered or changed in size, weight, or shape.

When evaulating the physical aspects of a task, notations should be made about the frequency with which the elements of a task occur, the type of motion that is usually exerted in the performance of the task, and the extent to which combinations of bodily motions are required to carry out the tasks. In the previous example, the worker could make 12 trips per day to collect material to be recorded, and the motion involved could include walking, climbing stairs, carrying various size ledgers or books, and bending to reach low shelves.

Cognitive Requirements

Memory,
Abstract
Reasoning,
and Concept
Interpretation

An evaluation of the cognitive requirements of the task is equally important. In this evaluation, the thought process and the complexity of the task are observed. Required intellectual skills, such as long-term and short-term memory, abstract reasoning, numerical perception and interpretation, organization of materials or concepts, and activities planning are identified. The worker in the previous example would need to be able to read the completed forms, to arrange them in the required order and to format them for input, and to understand the complexities of data entry to complete the tasks of the position.

Certain levels of education or training would be required in some administrative, professional, or technical jobs, and some work experience might be essential, especially in situations where instantaneous decisionmaking is involved. Particular work tasks might require a worker to judge events and to initiate action based on that judgment, as in the case of

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an emergency medical technician. Other workers might need to remain mentally alert for longer than usual periods of time, as in some medical settings.

Finally, the capacity to adapt to a variety of situations or site locations may be needed. For example, an electrical worker may work inside or outside of a building during the day or night, in hot 'or cold locations, in a planned or an emergency situation, and may travel some distance to perform work. If the individual is in a supervisory or administrative position, the ability to recognize and deal with varying worker temperaments may be necessary.

The Processes and Procedures Required

While attention is given to the separate elements of a position, the processes or procedures that are used in a position are also observed. The position or job may require the use of varied communication skills, such as answering a telephone and processing calls, meeting and addressing the public or the media, or composing and disseminating written materials. Some activities may occur in varying locations and require the worker to know a geographical area, to follow travel instructions, or to read maps or charts. Certain types of work may require high standards of accuracy or precise attention to detail, as in accounting and banking.

Training to Operate Equipment May Be Needed

Frequently, the product of a business is dependent upon the systematic completion of many procedures, thus requiring the worker to perform consistently. The methods that are used to complete the various activities and the skills that are required to use tools, equipment, or materials must also be noted. Specific training or even licensure may be required to perate some equipment. Workers may need certain physical characteristics as well as skills to use some tools.

The worker in the earlier example may collect material from several persons who have prepared written sales forms, may organize and enter the data onto a disk using a computer, and then prepare copies of the orders using a printer which is located in another area and is shared with other workers.

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This worker may then file the forms or prepare printed orders which are transported by another worker to shipping or another department. These tasks require the worker to know many procedures, to use a variety of equipment, and to perform in a manner that allows other workers to complete their assigned tasks.

Time Factors

As the processes or procedures are observed, the degree to which time must be considered can also be determined. While some activities may allow an individual to work alone or at a self-imposed speed, more frequently work must be completed within a specified amount of time because one worker's activities cannot begin until those of another are completed (for example, assembly line production).

Time is important when activities must take place during certain hours of the day or when they are seasonal. Time is also a factor when a job requires the worker to travel or otherwise be unable to return home at the end of the workday, such as truck drivers or salespersons.

Environmental Factors

Consider
Total
Environment

Another aspect of a functional job analysis that must be considered is the environment in which the work occurs. Activities may occur outside of a building where elements of nature, such as rain, snow, or sun, must be noted, or they may occur within a building where very high or very low temperatures may be a consideration. In some instances, sudden or frequent changes in temperature are a factor, as when a food preparation worker moves from a hot kitchen to a cold freezer many times during a day. Smoke or dust particles can be a factor either inside or outside of buildings, as can varying levels of sound or noise. Ventilation must be considered in the mining industry as well as in buildings and rooms where temperature and atmosphere are controlled centrally.

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Another aspect of the environment that can be of considerable importance is the effect of physical activities on workers. The driver of heavy earth-moving equipment will be subjected to repeated jarring as the vehicle moves on rugged or uneven terrain and the operator of a jackhammer will experience vibration for periods of time.

Finally, in any consideration of work environment the hazards associated with various jobs, either continuous or intermittent, should be noted. Electrical workers, police officers, and persons working with toxic materials, for example, are all subjected to a greater potential for bodily harm than most other workers.

Human Relationships

The need to interact with other persons is required in most work activities. When determining the requirements for human interaction, it is important to determine the actual requirements, not the characteristics of the person cuirently in the position.

Among the items to be considered are the degree to which a worker must be capable of accepting instructions or assignments from others, the extent to which such instructions are necessary, and the frequency at which such directions must be given. For example, it is important to note who is giving the directions, a worker of equal status or a supervisor, and whether the instructions, if repeated, are needed or given routinely.

The degree to which a worker is expected to interact with others as a group or team member in a decisionmaking process or as a team member to complete a task is also important. A janitor, for example, needs instructions from a supervisor only when the routir.e changes. The number of persons with whom a supervisor must interact and assume responsibility for is an important consideration for the supervisor and the workers who will be supervised. A small number of lower mentally functioning workers will require

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more attention than a larger group of more highly skilled or more experienced workers.

Another observation should be the degree to which the supervisor/administrator is capable of giving directions in a nonthreatening objective manner. Also, if a worker is required to communicate with the public, instead of persons within the organization, the personality traits and communication skills may differ. At all levels of worker activity the amount of stress associated with various tasks and the manner in which a worker is permitted to react to stress is important. An air traffic controller, for example, must be capable of accurately assessing an emergency situation and of systematically determining and performing the tasks needed to reach the most desirable conclusion. The relationship of social competency to job performance is discussed extensively in Chapter 8.

Importance of the Tasks to the Company

In order to determine the importance of specific tasks to a business, it is important to understand the product of the business and the philosophy upon which the organization is based. Whether a business is providing a product, a service, or parts to be distributed to other businesses, consistency and dependability are essential to the success of the business. Employees are expected to assume responsibility for their behavior and workmanship so they can contribute to the success of the business.

Priorities
examined

Attention must be paid to the worker's responsibility for performing various tasks, the importance of motivation to complete tasks, and the importance placed on consistency of attitude and action.

A company with the philosophy that accuracy and speed are the most important functions would expect workers to behave in a manner that would meet these goals. A worker who is intolerant of stress could have great difficulty working in this company. The employer, however, would expect workers to accept the goals and objectives of the

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business and perform all work activities in a manner that would be consistent with these goals.

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┌─────────────────────────────────────────────────┐
│                WHAT TO ANALYZE                    │
│                                                   │
│                Specific tasks                     │
│        Cognitive requirements of the job          │
│            Processes and procedures               │
│                 Time factors                      │
│             Environmental factors                 │
│               Human relationships                 │
│       Importance of the task to the company       │
└─────────────────────────────────────────────────┘
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Importance of Job Analysis

Essential
Functions
Enumerated

When a business completes a job analysis it documents valuable information that can be used to benefit workers, managers, and businesses. One important benefit is the enumeration of essential functions of jobs and positions.

Identification of essential functions helps managers ensure nondiscrimination in employment practices by allowing them to determine whether an individual is qualified for a position or job. To be qualified, an individual must be able to perform the essential functions of a job. This is especially important to businesses that must comply with Section 503 or 504 of the Vocational Rehabilitation Act of 1973.

Managers can use this information to identify specific areas with which workers might have difficulty or which they might be unable to perform in a timely manner. Then they can identify areas where there is need for additional instruction or supervision, reallocation of tasks, or modification of tasks.

By identifying areas of difficulty, workers might be able to suggest ways of improving performance or efficiency. A review of several positions might reveal that a procedure can be modified or that various tasks within a position might be

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redesigned to enhance efficiency. Workers who are especially skilled in certain elements or tasks can also be identified and reassigned as appropriate.

Perhaps the most important contribution of a functional job analysis is that employers can examine work activities (the tasks to be performed) rather than the abilities that workers might need to perform jobs. The abilities of individuals must also be reviewed to ensure that they possess the necessary skills, cognitive abilities to learn particular tasks, and the emotional and interpersonal skills to work with other persons. However, employers must be careful not to overlook potentially valuable employees by focusing only on abilities and not considering the tasks involved.

Alternatives Often Difficult To See

Alternative ways exist for performing most tasks. But, the alternatives are often difficult to see when the emphasis and attention are placed on a job and the way it is usually done, rather than on the task and how it could be done (U.S. Commission on Civil Rights, 1983).

In examining the physical requirements of a job, for example, it might be determined that an object weighing 50 pounds must be carried 100 yards and deposited on a shelf. The actual task requires that an object be transported a given distance and placed in a given location. This might be accomplished by using a cart that could move more than one object and by sliding the object onto the shelf. Thus, the physical carrying, lifting, and handling of the object is eliminated.

Usefulness to Business

In a previous example, a worker used a computer keyboard to enter data. While a data entry clerk might be thought of as one who sits in front of a computer and presses keys on a keyboard in a specific order, the actual task was to use a keyboard to enter data. A person with quadriplegia could use a mouth stick to perform this function, and a person without the use of upper extremities could use a head pointer or voice input technology to accomplish the task.

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Any task in any job might be done more easily and more efficiently by using a tool, a machine, or other equipment. Examining the tasks involved in a job allows managers to identify areas where there is an increased risk of injury to workers and to adjust practices or equipment that may be hazardous.

Another example of the usefulness of focusing on the task to be performed rather than on the abilities of workers is demonstrated by the many jobs being performed by persons who are blind or visually impaired. These tasks include measuring, handling, reading, writing, and instructing; many activities that are thought to be performed only by the sighted. A worker who is hearing impaired or deaf may need written instructions or messages and may require a light rather than a sound for an emergency signal, but otherwise could perform the same physical tasks as any other worker.

Examination of Job Tasks Can Lead to Different Conclusions

Even in instances where skills, cognitive abilities, and social abilities are considered paramount to job performance, examination of job tasks can often lead to a different conclusion than might otherwise be reached. If cognitive skills are thought to be insufficient, perhaps longer training and more supervision would enable a worker to function satisfactorily in a job.

The worker who becomes distracted or stressed when working in a room with other persons might be able to function well in a separate room or a screened area. Thus, the focus is shifted to tasks that might be modified.

Benefits of Job Analyses to Employers

Employers benefit greatly if they have complete functional job analyses of all positions within their organizations. As stated earlier, the identification of essential job tasks will be most helpful in selecting qualified applicants for jobs. Job analyses allow employers to hire and promote without discriminating.

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Employers can also use task descriptions to make job accommodation decisions. An important study carried out by Berkeley Planning Associates in 1982 addressed the issue of whether accommodations were being made in the workplace and whether such practices were sound business investments. The study showed that accommodations were being made in businesses throughout the nation and that they were simple and inexpensive. Accommodating workers with special needs was considered a sound business practice which invested in employees and decreased turnover among employees.

Use of
Functional
Job Analysis
Important

The use of functional job analyses in assisting injured workers to return to work cannot be overemphasized. Personnel officers can use the analyses to review the tasks previously performed by workers to determine where modifications or accommodations are needed. If workers are unable to return to their previous positions or jobs, the analyses can be used to determine where within the company the workers' skills and experience can be used.

A detailed description of a worker's tasks can be shared with a physician to determine when an employee can return to work after an illness and to determine if the employee's activities must be restricted. Frequently, an employee is permitted to return to work earlier if the physician determines that the employee's tasks can be performed safely.

If an employee cannot return to a previous job or be placed in another position, training may be required. Information about the tasks required for all positions within the company and knowledge of the employee's skills will enable a personnel officer or company official and the employee to determine the training that would be most helpful or desirable.

Frequently, employers express concerns about hiring persons who are functionally limited. However, studies have shown that these workers have above average safety records and tend to remain in their jobs rather than seek new employment (Coudroglou and Poole, 1984). Research indicates that it is good business to accommodate differences in

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workers by reviewing the tasks they are required to perform and by adjusting or modifying their positions or work environments. The functional job analysis is an exceptionally valuable tool in facilitating this practice.

Benefits of Job Analyses to Workers

Although benefits to the worker ultimately benefit the employer, workers obtain definite advantages that should not be overlooked. One group that can profit greatly from analyses is older workers. While there is no concensus as to the exact age at which one becomes older, generally 55 is used. Several factors warrant an examination of this group.

Number of Older Workers Increasing

Although the number of young persons entering the work force is decreasing, the fastest growing proportion of the population is the group over age 45. An increasing number of older workers continue to work for income, to occupy time, or for a variety of other reasons.

Either because of the time at which these persons entered the work force or because of the lack of specialized training, many older workers are engaged in service occupations or jobs that require physical activities. Most of them have not learned new or improved skills, and have not kept current with advances in technology. As a result, they find themselves occupying jcbs which place demands on their bodies, which are less responsive because of the aging process.

Functional analyses of work activities are important if modifications or accommodations are to be made. A review of job tasks is important, and a review of all procedures can be useful in identifying ways to redesign tasks within a position.

Most Limitations Can Be Accommodated

Persons who have physical limitations can also benefit from analyses of jobs or positions. Technological advances allow accommodation of most limitations in the workplace. More accommodations are being made by businesses, more training is available to persons with disabilities, and emphasis is being placed on the positive aspects of incorporating such persons in the work force. Therefore, the value of examining

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job tasks to accommodate individual differences cannot be overemphasized.

For the group of individuals that has decreased mental functioning capacities, the opportunities for employment are improving continually. Because of the decreasing number of younger workers and the steadily increasing need for service workers, the importance of examining job tasks and elements becomes more important as a method of identifying and providing this group with the skills they need. Research has demonstrated that through repetition of basic elements of a task, visual or auditory cues, and intensive supervision for a longer period of time, many of these persons can become productive dedicated employees. Again, examination of specific parts of work activities is essential if limitations are to be accommodated.

Another group of individuals who can benefit from functional job analyses are persons who are limited by emotional or social difficulties. A range of limitations can occur in persons with these difficulties, but examination of jobs tasks and workers' skills can be helpful.

The need to work alone or with a group of persons, the need to make decisions, the need to interact with workers in a cooperative manner, or the need for flexible work hours are all aspects of work activities that should be identified in job analyses. While the accommodations or modifications needed by this group may include changes in procedures, practices, or policies, only limited alterations can be made unless specific areas of difficulty are identified.

A Resource for Employers

The Job Accommodation Network (JAN) is a service that was developed to assist employers in making accommodations or modifications for their employees. For years, members of the Employers Committee of the President's Committee on Employment of the Handicapped discussed ways of offering assistance to other employers who were interested in hiring persons with disabilities. The committee members thought that

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many employers were making accommodations but that little information was being shared. The committee devised a plan to establish a location where such knowledge could be collected, classified, and disseminated to employers with similar needs. The concept included the use of consultants who would respond to telephone requests from employers who were seeking information about practical ways to accommodate individuals with special needs in their work environments.

Solutions to Accommodation Provided by JAN

With funding from the National Institute of Handicapped Research and later by the Rehabilitation Services Administration, the West Virginia Research and Training Center became the site at which the services were established. The center opened in July 1984, and became an information network and consulting service for employers, rehabilitation professionals, and other resource agencies. JAN provides field-tested solutions of ways to accommodate individuals who are functionally limited.

JAN looks at the manner in which an individual's functional limitation relates to a specific job task. This permits network users to concentrate not on the individual's disability but on the limitation which must be accommodated in the workplace.

JAN provides descriptions of solutions employers have made to accommodate individuals with special needs in their businesses, materials provided by manufacturers and distributors of products that are used in any workplace, data and information provided by organizations or special interest groups, and information from consultants throughout the nation.

Information Requested of Users

JAN provides a toll-free number (1-800-JAN-PCEH or in West Virginia 1-800-JAN-INWV) by voice and TDD from 8:00 a.m. to 8:00 p.m. EST and by a telephone message service on evenings and weekends. There is no fee for the use of JAN, however, users are asked to provide information about accommodations they have made so that the information can be shared with others.

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Information is provided by telephone or by mail. If consultants do not have the information requested, callers are referred to other resources. The JAN service is based on the concept of functional job analyses and has been helpful to many employers.

In summary, the use of functional job analyses can be very beneficial to employees and businesses.

Chapter 3

Assessing the Individual

Karen Faison

Importance of Assessments

When setting career goals, assessments can be critical. Aptitude tests, intelligence tests, and interest profiles aid in setting career goals. For many, a battery of assessments is necessary.

Assessment is a continuous function of training programs. Trainees receive daily progress reports which focus training to problem areas. These assessments, which are geared toward the individual's goals, can also relate to life goals.

If assessment is geared toward the goals of the individual, it will relate to overall life aims. Blanket assessments, which are the same for every individual in a program, are not useful generally. Individual assessments should always relate to an individual's goals.

Purposes of Assessment

Good assessment is conducted continuously during training and employment. After career goals are established, assessments should pinpoint an individual's abilities and skills.

Assessments can also evaluate the effectiveness of services. If training supports a person's job goals, it should continue. If not, it should be adjusted accordingly.

Realistic goals should be set for individuals with special needs. Disabilities may prevent individuals from accomplishing certain tasks. Assessment identifies deficiencies and helps determine the adaptations which may be required to meet goals.

Assessments should also be conducted after training activities. This evaluation will determine if planned activities should be terminated or changed. At this point, job interest can be determined and the search for employment can begin.

Information Provided from Assessments

Three general types of assessments exist. First, standardized tests, such as intelligence quotient tests, measure an individual's intelligence or ability in relation to others. Second, behavioral checklists are used to determine specific skills which are measured developmentally. Finally, subjective assessments are based on personal interviews and unstructured observations.

Vocational Assessments Useful When Specific

Vocational assessments are helpful when used in relation to a specific job category. These assessments examine the individual's strengths and weaknesses and indicate specific training needs. Vocational assessments include job analyses. These analyses outline the skills and behaviors necessary for specific jobs. An assessment of the job environment is included in this type of analysis.

When to Conduct Vocational Assessments

Vocational interest should be explored prior to career goal planning. After these goals are established, the individual, the job, and the environment should be assessed.

Assessments Are Ongoing

Training is evaluated according to the amount of time required to train individuals and their ability to meet established goals. An assessment during the first few months of employment determines the need for additional training. Periodically, the staff should review jobs to make training recommendations or to note changes in duties. Reassessment is also necessary if an individual experiences a change in health or ability to perform the job.

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Factors to be Assessed

Vocational assessments consist of three factors: the person, the job, and the employer.

The Person. Does the individual display interest in the job? Successful training and job placement depend on highly motivated individuals.

Personal
Assessment

After interest levels are determined, individuals should be assessed for attributes needed to perform jobs. An individual's health and physical condition should be matched with the job.

The following questions should be included in a vocational assessment. Are manual skills and dexterity essential to job performance? Can the individual lift or carry materials? Are reasoning skills important? Must qualitative judgments be made? When individual job specifications are established, individuals can be assessed fairly, and areas of deficiency can be identified and corrected.

A general evaluation is appropriate during the initial phase of career planning. Standardized intelligence tests, behavioral checklists, aptitude tests, and work samples can be used. Accurate evaluations help predict individuals' abilities to perform jobs. After areas of strength and weakness are identified, individuals can plan accordingly.

An assessment plan should be established after training has started. Observational data can be used during this phase. It should be charted daily and reviewed weekly.

An evaluation of an assessment plan should include the following questions. Is the training successful? If so, is a plan to correct deficiencies being used? Is it working? Is the training being carried out as quickly and as efficiently as possible? Is the experience reinforcing and rewarding to the individual? Is the training technology working?

Throughout the training period, social skills should be evaluated. Acceptance by coworkers often hinges on the

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Evaluation of Social Skills

employee's social skills. Do individuals get along with other employees? Do they recognize the signals given for breaks or lunch? Are they comfortable asking questions and talking to supervisors? Will the person be able to form friendships? If the answers to any of these questions is no, then a plan to develop social skills should be considered. Observational data must be collected and updated to ensure that records are accurate.

Before the training period ends, another assessment shoulu be made to develop a specific employment plan (see Chapter 4). Will the transition from training to a job be smooth? Will continued support be necessary? Has the job description changed since training started?

Assessments should continue after the new job begins. The strengths and weaknesses of the training plan should also be determined and modified for future use.

Assessment of the Job

The Job. Several aspects of the job should be assessed. First, the tasks of the job should be evaluated thoroughly, and the following types of questions should be answered. Can the individual perform each step of a specific task? For example, the task may be assembling widgets and counting out ten to a box. Can the person count to ten and perform the assembly task correctly? If the job is considered too complex, can it be simplified?

A careful task analysis may produce solutions to complex problems. Perhaps organizing a sequence of tasks differently would make a job easier to perform. For example, a janitor's job could be confusing if a person did not know what cleaning tools to use in various parts of a building. This task might be simplified if the supervisor put tools in place before the individual began work. It might also be simplified by posting pictures of the appropriate tools in the proper locations. Just as auto mechanics simplify the process of putting away tools by drawing outlines of each around the place where it hangs, others cɾ uld simplify jobs for individuals with special needs.

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If a job is too complex, can it be restructured to meet the individual's abilities? The assessment now involves reviewing job responsibilities. Are the responsibilities definitely related to the job, or could someone else assume them? Could the job be shared, with each person working a 4-hour shift?

An effort is always made to assure an appropriate match between the employee and the job. What does the employee have to learn? What job adaptations need to be made? (See Chapters 5 and 6.)

The Environment. The job environment should be assessed thoroughly. The initial question is, "How accessible is this environment?" For those in wheelchairs, accessibility includes doorway width, ramps, elevators, and restrooms. For those who cannot read, accessibility includes an analysis of signs. Are they words only or do they include pictures? Are there braille indicators for visually impaired job applicants? Are restrooms marked with graphics rather than script? Is the eating area accessible? Is food available on site? What skills are necessary to go through a cafeteria line? Does a time clock need to be punched? What mechanism is used to ensure that employees arrive and leave on time?

Look at the Environment

Social skills must be assessed along with the environment. Do coworkers need counseling or training before working with persons with special needs? Educating employees involves some explanation ahead of time and will make the adjustment process easier for the person with special needs. Are other social skills needed to participate in a cooperative job atmosphere? How much communication is absolutely necessary? If a worker is deaf, should other employees learn sign language? (See Chapter 7.)

The Location. The location of the job is an important element in job performance. For example, if a work site is located on the outskirts of a city, transportation may be a problem. Individuals must be prepared; for example, they must know the layout of the work site and the exact hours of the shift. (See Chapter 5.)

Study the Location

The Employer. Studies have shown that a key to success for persons with special needs is top managers' commitment to hire them. The human service professional should arrange a meeting with the chief executive officer and explain the advantages of hiring persons with special needs. This explanation should be a planned presentation that is geared to the needs of the employer.

Assess the Requirements of the Business

The company should be evaluated and persons with special needs should be matched with the company's requirements. For example, if a business is concerned with absenteeism and employee turnover, the statistics regarding attendance and longevity of workers with special needs should be presented. If management is concerned about taxes, information about tax credit plans should be provided.

Managers and personnel officers also need to be educated about persons with special needs. They need to know why they should hire workers with special needs and the potential problems. For example, will accommodations be needed if a person who is blind is hired to do computer work, or will some workers need to learn sign language to accommodate a person who is deaf?

In reality, few accommodations are necessary when hiring workers with special needs, but the possibilities should be presented. A discussion of the relationship between employees with special needs and other workers should also be included. Managers should anticipate and discuss the objections that may be raised by other workers.

A thorough assessment of the individual, the job, and the employer is needed to ensure employment success of persons with special needs. The assessments should be conducted concurrently. The value of the assessments relies on the training of the worker; the preparation of the business, including employees who are on the job; and required job adaptations.

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Effectiveness of Assessment

Some standard assessment tests may lead to the conclusion that some people are not employable. For older workers and persons with severe disabilities, this happens frequently.

Useful
Assessment

Useful functional assessment includes evaluating the environment, the employer, the task, and the individual. After these components are evaluated, job candidates can be matched with jobs. For example, an individual may be trained for a janitorial job. A position may open in a large hospital that requires cleaning of patient rooms. After evaluating the job, the environment, the employer, and the employee, the individual may be considered unable to perform the tasks successfully. But, the person might be successful working in a small office building.

Successful assessment evaluates employers because all employers are different. Some try very hard to hire persons with special needs; other employers are not interested.

Assessment tools vary with every case. For some people, successful assessments are based on observational data. Human service workers should have access to a range of vocational, intellectual, and social assessment tools.

Some aspects of the individual's environment should be assessed. Most people operate most effectively with a good support system, and employees with special needs are no exception. Individuals may do well in all assessment areas, but may fail on the job without a good support system.

Incentives
and
Disincentives

Incentives and disincentives to employment must also be considered in assessments. Ironically, job placement may reduce total income rather than increase it for Supplemental Security Income (SSI) recipients. SSI payments are usually discontinued after an employee has been on the job for several months. If the job is lost, SSI payments do not resume for several months.

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Consequently, individuals who depend on SSI payments may be reluctant to give up a guaranteed income for a job. Studies indicate that many persons with mental retardation who are employed at fast-food restaurants take home less pay than they received in SSI payments.

However, there may be other incentives for going to work. Older workers or persons with severe disabilities who have been socially isolated at home may simply want to supplement their SSI payments.

A careful analysis should always be made of the socialization network associated with any job. Job success may rely on support from the staff, but some individuals find support in the job. A social analysis is an essential part of the vocational assessment.

The Concept of Function and Form

Traditionally, individuals are assessed using checklists that monitor step-by-step sequenced behaviors that indicate task mastery. This method can be time consuming and frustrating. Rather than relying on traditional checklists to assess an individual's job readiness, behavioral form, and behavioral function models can be used (Brickey and Campbell, 1981). The function of behavior refers to the purpose of a behavior. The form refers to the specific means used to accomplish a certain function.

Define Function; Brainstorm Forms

One aspect of employment, promptness, will be used to illustrate form and function. The objective of this exercise is to reinforce a specific behavior, arriving at work on time. Traditionally, this behavior is taught in a roundabout way, that is, first, individuals are taught to tell time. Then, task analyses are completed and individuals are taught to set the alarm clock in the evening, rise to the sound of the alarm, turn it off, get ready, and, ultimately, arrive at work on time. Teaching a sequence such as this could take from 3 days to 2 years.

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Using the function and form alternative, agency personnel might brainstorm all the possible ways to be prompt. For instance, someone might give individuals wake-up calls or car pools could provide transportation to work sites. Staff members could personally wake up these individuals. These examples are all forms of the function of arriving at work on time.

Another example of form is the traditional process used to teach individuals to tell time. When all the forms have been listed, staff and trainees can determine which form meets the trainee's needs and is easy to teach and learn.

The function and form exercise can be used in all areas of vocational planning and assessment. Every task can be stated as a behavioral function. Then, the team can brainstorm the possible forms the task can take. Appropriate form selection should be based on the individual's capabilities and weaknesses.

An older worker with arthritis in her hands was required to answer the telephone in an office and relay telephone messages. Because she found writing very difficult, she brainstormed ways to record messages for her boss when he was out of the office and decided to use a tape recorder. This is another example of a newly developed behavioral form of the function of taking and relaying telephone messages.

Trainers should remember that the best method for teaching individuals with special needs should also be the easiest, quickest, and most efficient. This is especially important in two areas--the individual's energy and the agency's budget.

Utilization of Energy

Often personal energy is overlooked as a resource. Its importance can be illustrated dramatically by comparing the energy expenditures of persons with and without disabilities. When nondisabled individuals wake up in the morning, 100 percent of their daily energy is available. Before they even get out of bed, they know that 20-25 percent of their energy will be used for ordinary routine tasks, such as getting up,

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brushing their teeth, eating meals, and driving to work. Further, about 50-60 percent of their energy will be used at work--making decisions, assembling products, and contacting clients. The 15-25 percent of their remaining energy will be used in recreation, at work, or at home. Some may be used washing dishes, vacuuming floors, doing laundry, pursuing a hobby, or working in the garden. The point is, most people use their energy wisely and go to bed after expending 100 percent of it.

But, expending energy has a different meaning for persons with special needs. For example, persons who hyperextend involuntarily know at the beginning of each day that 10-20 percent of their energy will be needed to manage these spasms. Failure to control the spasms means falling out of a wheelchair or doing something that could be embarrassing or painful. They know before getting out of bed that about 80 percent of their energy will be used on routine daily tasks.

The same is true of those who are hearing impaired. They know that 10-25 percent of their daily energy will be needed for communication skills. An asthmatic once commented that he knew at the beginning of each day that he would use 15-25 percent of his energy breathing.

Instructors must examine their teaching practices in relation to the energy requirements of other people and recognize the limited energy capacity of persons with special needs. Teaching technology and methods aimed toward the quickest, easiest, and most efficient methods of teaching those with disabilities are essential. When energy is precious, it must be conserved.

The needs of many people served by human service agencies have been neglected in the past. Many individuals have spent weeks or years waiting for services. Their time should not be wasted. Services leading toward employment should be offered as quickly and efficiently as possible.

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Agency budgets must also be considered. Unlimited money is not available for trainee programming. Therefore, time must be used efficiently so more individuals can be served.

The function-and-form method effectively guards against wasting the individual's energy and the agency's money. Functions are actually outcomes of different forms of behavior. The function describes needs to be fulfilled, not who will do it, how long it will take, or how it will be done. As stated earlier, for every function there are a variety of behavioral forms. When they have all been outlined, it is fairly easy to choose those that best meet the needs of individuals.

Summary

The assessment of the person, the job, and the employer, will identify an individual's strengths in relation to specific jobs. The function-and-form method ensures that the individual will be taught tasks in the quickest, most efficient manner. Each facet of the process leads to successful job placement for persons with special needs.

Chapter 4

Making a Successful Job Match

Karen Faison and Lois Rood

Karen Faison and Lois Rood

The Job
Matching
Process

Module 2, *Building Effective Partnerships: A Win-Win Approach*, provides extensive information on the job matching process at the systematic level. This module goes beyond the system's level of job matching and explains how the process works for each individual. As discussed earlier, one of the most critical factors to employment success is confidence that the individual can perform the job.

It is equally cr'tical for the employee to be interested in the job. If there is no interest, chances are slim for successful employment. The employer should be able to accommodate special needs if the employee is interested in the job and wants to succeed. Therefore, the career goal must be stated clearly and must be internalized by the employee. The goal cannot be the agency representative's.

A very effective method of making a successful job match is to develop a written employment plan. This plan can clearly state the goal, identify obstacles to achieving the goal, and implement the kinds of support necessary to remove the obstacles. This plan can be developed by the agency representative with assistance from the employee and the employer. The following steps are necessary for a successful job match and a written employment plan.

Step 1: Establish a Career Goal

What Is the
Applicant's
Career Goal?

The first step for job developers and applicants is to discuss long-term goals. What work areas are of interest? What are the applicant's aspirations? Where does the applicant want to be in 5 years? These initial goals may be broad, but they should include the jobs in which the applicant is interested. For example, the applicant may be interested in working in a hotel, a factory, or in sales. Discussion should

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include prospective salaries, working conditions, required work behaviors, hours, and other job requirements that would affect the applicant's lifestyle. This session is an exercise in planning the future. Using information from this session, the counselor can develop guidelines for a job search.

At this point, applicants may have insecurities regarding their ability to perform some jobs. General aptitude tests and additional counseling may be used to reinforce confidence. For example, individuals interested in sales work may doubt their ability to talk to customers convincingly about the superiority of their product. Aptitude tests can determine an individual's capabilities in this area.

Keep in mind that some persons with special needs, particularly those who are disabled, may never have had an opportunity to survey jobs. People who have been disabled since birth may have grown up sheltered from work. They may have never had summer jobs or after-school work as members of the able-bodied population have. Therefore, they lack the discriminatory ability to screen out some jobs or to pinpoint interest in others. A vocational counselor can help them survey the job market and determine whether a particular line of work is a viable goal.

Step 2: Narrow the Job Choices

What Jobs Are Available?

Now, the counselor and the applicant can inventory the job choices. If a general goal, such as, working in an industry, has been set, jobs in that area can be examined and the possibilities narrowed. The process involves a study of current market trends, the kinds of jobs available, and the kinds of jobs in demand in the future. Ideally, the job search will be narrowed to one or two positions. The counselor and the individual must spend time looking at want ads, talking with local industry and agency personnel, and generally monitoring the local job market. Pinpointing a specific job should be emphasized.

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Step 3: Find a Receptive Employer

When a specific job has been targeted, the counselor should visit the employer. At this point, it is better to talk with the chief executive officer (CEO) than the personnel officer. The CEO makes the business dec: 'ions and will decide whether to employ persons with special needs. Representatives from the personnel division need to be involved, however.

Counselors should be well prepared when approaching a CEO. Materials to have available include the individual's employment record, personal and professional records, and any supporting information the rehabilitation agency is willing to provide.

The discussion should focus on the person's productivity. It may be useful to provide the employer with a functional resume that details the individual's abilities. The emphasis is not on asse..sment at this point but on providing facts. A commitment from the company to hire a person with a special need is required. When the go-ahead has been given, a functional assessment of the job should be made. When the CEO gives the counselor approval to work with managers and the personnel department, assessment procedures can begin.

Step 4: Assess the Work Environment

All aspects of the job environment must be assessed. First, does the environment need to be adapted or changed? Considerations might include expensive items, such as building ramps or widening doorways. Minor changes include changing written signs to graphic signs. The job structure may also require adaptations.

Step 5: Analyze the Job

The job should be task analyzed by breaking it down and scrutinizing each component. An employee may be able to perform most of the job but not all of it. If so, the job can be simplified or redesigned.

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In some cases, job redesigning may be appropriate. If the employee with special needs can perform some portions of one job and other portions of another job, perhaps the jobs can be shared with another employee. For example, a job requiring lifting and carrying pieces of lumber to a machine that saws them into componert parts can be shared easily. An older worker capable of operating the saw may be unable to lift and carry the lumber; another employee could assume this chore. All restructuring options should be flexible.

After job simplification and job redesigning have been addressed, the job should be examined closely. When the task analysis is complete, job functions should be described and the various forms for each function delineated. Remember, when choosing the appropriate form of each function, look for the one that can be taught in the easiest, quickest, and most efficient manner and yet enables the employee to get the job done. After the job analysis and the function-and-form assessment are completed, a teaching program can be developed.

Step 6: Assess Social Skills

What Social Skills Are Important

Once the job has been analyzed, survey the social skills required in the workplace. These include asking for help, finding the restrooms and the cafeteria, and wearing appropriate clothing. Varying behavioral forms should be considered for each function.

Step 7: Assess Transportation Needs

How Can the Person Get to Work?

The location of the plant or industry should be assessed carefully in terms of the person's transportation needs. Will it be necessary to train the individual to ride a city bus? Perhaps an arrangement can be worked out with a local taxicab company. Is handicapped parking available with accessibility from the parking lot into the building? Are there any safety hazards to be considered?

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Step 8: Begin a Company Awareness Program

Is Education Needed?

Counselors should talk with employees and managers. Educational seminars may be necessary for managers to help them understand the person with special needs who will be working for them. These seminars should include the same information that was presented to the chief executive officer during the first interview. There should also be an opportunity for questions and answers.

Counselors should also talk to coworkers; they have the power to make or break new employees. Address prejudices and be prepared to provide factual data. If a new employee has special communication skills, such as reading lips or using sign language, are coworkers willing to learn new skills? What is the union's position toward persons with special needs?

Step 9: Prepare a Written Employment Plan

What Support Is Needed? Who Will Do What?

Now is the time to prepare a plan of action. The job and the employee have been assessed thoroughly. The job functions have been described and job forms have been brainstormed. Design a general assessment of the individual with disabilities. Specific references to behavioral forms that will be necessary on the new job should be included. Observational data concerning the individual's ability to perform certain job functions will probably be necessary. The job's components and the ability of the individual to perform each must be determined too.

A list of the strengths and needs of the person in relation to the job can be developed along with a teaching plan. An analysis of the person's strengths and needs will determine if the individual should be placed on the job immediately with some support or if training should continue in a workshop setting. If necessary, standardized tests and checklists can be used to elicit needed information.

After these decisions are made, the efficient use of staff should be considered. Would a staff member be most useful

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on the job with an individual in a one-on-one situation? After completing the training, the staff member should return to the workshop setting and begin training another person. Wherever training takes place, tasks should be prioritized and teaching started as soon as possible.

Step 10: Keep a Record

Are Skills Being Acquired?

Assessment is essential throughout the teaching process. Whether the individual is being taught in a one-on-one situation by staff persons or in a workshop setting, it is important to keep daily data. These data indicate the effectiveness of the program and the progress of the individual. This assessment method depends on properly written behavioral objectives for each task. Behavioral objectives explain the criteria and teaching conditions.

During the training period, the agency should maintain contact with the company to ensure awareness of job openings. The individual can then apply for a specific position and have a reasonable chance of being hired.

At this time, a functional resume should be outlined. It should describe the individual's experience and skills. If necessary, someone should accompany the applicant to the personnel office to help fill out forms prior to the interview. Interviewing techniques should be taught as part of the individual's rehabilitation plan. Practice is helpful before any job interview. Staff assistance should be provided to help those who are severely disabled demonstrate that they can accomplish job tasks successfully with needed adaptations if necessary.

Step 11: Continue to Measure Progress

Are Performance Standards Achieved?

An individual's performance should be measured during the first few months of employment. If the placement is successful, the data should be used to plan future strategies for other persons with special needs. If unsuccessful, the data indicate the necessity for retraining.

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Although this assessment process may seem long and cumbersome, rehabilitation counselors are already familiar with many of the details. Maintaining contact with interested businesses is familiar and assessments of environments and locations are almost automatic for human services workers. The assessment process is very important because the most successful job approach is to select the person and the job and then make a job match.

Steps in Developing a
Written Employment Plan

Establish a career goal
Narrow the job choices
Find a receptive employer
Assess the work environment
Analyze the job
Assess social skills
Assess transportation needs
Begin a company awareness program
Prepare a written employment plan
Keep a record
Continue to measure progress

Summary

Individual placement plans must be written for each individual with special needs who is seeking employment through the rehabilitation process. These plans should include:

- Assessment of the individual's goals,
- Analysis of the job and the workplace,
- Analysis of the location and the environment,
- Social analyses,
- Assessment of the individual's capabilities, and
- A teaching plan.

A written plan prevents counselors from teaching skills that will never be used. Because a thorough analysis of

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requisite skills has been completed and behavioral functions have been identified, only important job skills need to be taught.

Documentation of a planning program is an efficient use of the employee's energy and the agency's budget. A skillfully written plan will ensure that the teaching technology is efficient and that wasted effort is eliminated. A written plan can be analyzed for the most efficient use of staff time and agency money.

Another reason that a specific placement plan is important is that it encourages people to follow through on their responsibilities. Using a written plan, people can be assigned to each objective. Ultimate responsibility for the objective lies with the assigned person. If problems occur, it is easy to pinpoint the responsible individual and follow through to a resolution.

Vocational assessment is an integral part of the job placement process for persons with disabilities. Assessment should take place after the person's goals are established; when determining strengths and needs in specific job categories; throughout the planning process for the assessment of the individual, the job, and the environment; during training; and as the individual moves into the work environment.

Assessment is least helpful as a method of screening potential workers. It is most helpful when used for planning and training. Appropriate use of the function and form concepts can help counselors in identifying and teaching skills and behaviors. Persons who use this functional approach to assessment will enhance the possibilities of a good match between individual and job.

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Chapter 5

Adapting the Workplace

Lois Schwab and Janet Buskey

Introduction

This chapter identifies alterations that can be made in the environment and explains how to structure a job based on a functional impairment.

Designing for Effective Functioning

Buildings, houses, and work sites are built to meet standard measurements; many individuals have been weighed, measured, analyzed, and classified to assess their physical functioning in order to develop a standard profile of individuals. Environments, for example, houses, buildings, offices, furniture, clothing, are built to accommodate the standard people identified as statistical norms. Yet, few individuals fall within the range of the so-called standard person because individuals vary greatly in shape and size. Each person has unique features, such as height, weight, strength, and function. Thus, the individual becomes the best resource for determining designs for effective functioning (See pamphlet, *Just Ask*, Northwestern Bell, 1986).

What Is a Functional Disability?

Some People Vary from the Average

Persons with physical, mental, or emotional impairments are at the statistical extremes of the population. Often they do not fall within the statistical average in height, weight, strength, and function, and they face a handicapping environment. The handicap imposed by society increases in direct ratio as the individual varies from these average measurements. Extreme variance from the norm means functional disability (Raschko, 1982). The inaccessible environment makes for an individual handicap.

Section 504 of the Vocational Rehabilitation Act of 1973

People
Cannot Be
Excluded
Based on
Disability

To improve conditions where environment is the primary factor in functional disability, Section 504 of the Rehabilitation Act of 1973 provided that "no otherwise qualified handicapped individual shall, solely by reason of his handicap be excluded from the participation in, be denied the benefits of, or be subject to discrimination under any program or activity securing financial assistance." Thus, anyone receiving federal financial assistance or grants, including education, social services, housing, and transportation programs, cannot discriminate against qualified persons in employment on the basis of handicap.

Section 501 specifies similar affirmative action policies to be followed in the employment structure of the federal government. Section 503 of the act requires affirmative action by all public and private contractors of the federal government when the contract exceeds $2,500. Contractors and subcontractors having contracts of $50,000 or more and 50 or more employees are required to specify and follow an affirmative action program. As employers, the recipients of federal funds must reasonably accommodate the handicaps of applicants and employees unless the accommodation would cause the employer undue hardship.

Regulations issued on May 4, 1977, identify reasonable accommodation as follows:

■ A recipient shall make reasonable accommodation to the known physical or mental limitations of an otherwise qualified handicapped applicant or employee unless the recipient can demonstrate that the accommodation would impose an undue hardship on the operation of the program.

■ Reasonable accommodation may include: (1) making facilities readily accessible to and usable by handicapped persons, and (2) job restructuring, part-time or modified schedules, acquisition or modification of equipment or devices, the provision of readers or interpreters, and other similar actions.

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Undue hardships are explained as follows in these regulations to guide employers in their consideration of reasonable accommodation:

■ The overall size of the recipient's program with respect to the number of employees, number and type of facilities, and size of budget;

■ The type of the recipient's operation with respect to number and type of facilities and size of budget; and

■ The nature and cost of the accommodation needed.

This regulation further defines program accessibility through the following statement: "No qualified handicapped person shall, because a recipient's facilities are inaccessible to or unusable by handicapped persons, be denied the benefits of, be excluded from participation in or otherwise be subject to discrimination under any program or activity to which this part applies."

Accessibility Is Required

Thus, accessibility becomes the operative word in the consideration of reasonable accommodation. Accessibility refers to the availability of a program, activity, or building by persons with disabilities. It includes redesigning equipment, reassigning meetings to accessible places, providing transportation, and making aides available (Wright, 1980). It includes the ability: to circulate easily within the person's microenvironment of work; to care for personal hygienic needs; to maintain privacy; and, generally, to be in control with minimal outside assistance.

The high work counter is required for the tall, ambulatory person, but this high counter presents a formidable barrier to the individual seated in a wheelchair. Work sites which have been considered standard must be considered flexible and adjustable.

Accessibility can be achieved by redesigning equipment and work sites, reassigning individuals to accessible locations and

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equipment, or making aides available to the individual at places of inaccessibility. The goal of reasonable accommodation is to develop an environment which fits the user.

Benefits of Accommodation

The long-term benefits of adapting work sites to the needs of individuals through accommodation are as follows:

■ A qualified worker can perform the assigned task through a better person-environment fit.

■ Productivity increases.

■ The employer and the employee accept and become willing to change.

■ The job site is safer and the accommodation is efficient for all workers.

■ The level of independence of the qualified worker is increased.

The following principles are important when considering the accommodation in a work site:

■ The adjustment should meet an identified need in assisting a worker to do a job, which may include conserving energy.

■ The adjustment should be socially acceptable, that is, it should not differ too radically from the way nondisabled persons perform the task.

■ The adjustment should be accepted by both employee and employer.

■ A favorable cost-profit ratio should exist between the cost of the adjustment and the increase in efficiency, such as the benefit of acquiring a stable worker.

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Accessibility and accommodation should be considered for individuals with severe disabilities. Employers and rehabilitation personnel share the responsibility for making appropriate changes for effective work conditions.

Adaptation of the Workplace

When making adaptations to the workplace all aspects of the individual's ability and the building's facilities should be considered. The following guidelines are offered.

Exterior Accessibility to Buildings

■ At least one accessible route should be provided from public transportation ,tops, accessible parking and passenger loading zones, and public streets and sidewalks to the accessible building entrance. This includes:

-- A safe parking zone designated for passengers to get into and out of cars.

-- Parking should be available at the end of rows (diagonal or head-in). Stalls should be 12 feet wide. Ramps must be cut into curbs to allow entry and exit (American National Standard Specifications, 1980).

■ Public walkways should have a minimum grade of 3 percent with a minimum width of 48 inches. Where traffic is heavy, a width of 60 inches is recommended to allow individuals to pass and walkways should be provided at intervals not to exceed 200 feet.

■ Ramps should be provided. The recommended slope for ramps is 5 percent (1 foot rise for each 20 feet length). Handrails (32-33 inches from the flow) should be provided on both sides of the ramp. Ramps and walkways should have nonslip surfaces.

Buildings

Many people with disabilities can pass through existing
structures, but people who use wheelchairs or crutches need
special environmental adaptations. Some architectural elements
have to be restructured to eliminate barriers.

■ Floors

-- Steps and curbs should be eliminated or lowered to a
one-fourth inch vertical edge. Changes in level
between one-fourth and one-half inch must be
beveled.

-- Irregularities in floors, such as grates, should be
eliminated to prevent penetration by crutches.

-- Floors should not be slippery when wet or dry.

-- Scatter rugs and rugs with deep pile or abrupt edges
should be avoided.

■ Walls

-- Rough walls can cause hand abrasions and should be
eliminated.

-- Objects projecting from the walls should be kept to
a minimum.

-- Handrails should be sturdy, smooth, and round for a
comfortable, safe grip. They should be 1.5 inches in
diameter and a 1.5 inch clearance should be provided
between the railing and the wall.

■ Walks and Ramps

-- The maximum recommended grade for walks is 3
percent with a minimum width of 48 inches
(Raschko, 1982).

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-- Ramps should have a 5-8 percent grade, rest spaces are required every 30 feet, and handrails should be provided on both sides. Rest platforms should be 54 inches in length and at intervals not to exceed 200 feet. The minimum clear width of a ramp must be 36 inches, and non-skid surfaces are required.

-- Steps within the building should conform to the following: risers should not be over 7 inches high and treads should be no less than 11 inches wide, measuring from riser to riser. Nosings should not be abrupt but rounded with a projection of no more than 1.5 inches. All steps should have uniform riser heights and tread widths.

■ Doors and Entryways

-- Sliding doors are an obstacle to the wheelchair user unless they are automatic and have no obstructing tracts. Revolving doors are an absolute barrier and are impossible for individuals using crutches or wheelchairs.

-- A spacing of at least 80 inches between two sets of doors (one set behind the other) avoids a wheelchair trap. Doors in series should swing in the same direction or away from the space between the doors. Doors should be easy to open with a maximum force of 8.5 pounds.

-- Lever handles on all doors are preferred.

-- Doors with automatic openers are recommended.

-- Door widths must have a 32 inch minimum clear opening so that a wheelchair can pass through. The width is measured with the door open 90 degrees, measuring between the face of the door and the stop (Raschko, 1982).

■ Use of Interior Space

-- Wheelchair parking space is required in conference rooms, auditoriums, libraries, and offices within buildings, and parking is usually considered to be a 5 x 5 foot area.

-- Increased aisle space and parking space is required in cafeterias and restaurants. Knee space at tables, counters and work counters, should be at least 27 inches high, 30 inches wide, and 19 inches deep for individuals in wheelchairs.

-- The height of work surfaces (for example, tables and desks) should be from 28-34 inches from the floor.

-- Public toilet stalls, showers, and telephone booths should be large enough to accommodate a wheelchair.

■ Elevators

-- The minimum size for the cab of a public elevator for wheelchair use is 68 inches wide by 54 inches deep with minimum door clearance of 32 inches.

-- Call buttons in elevator lobbies, halls, and cabs should be centered at 42 inches above the floor. Visual signals should indicate each call as registered and answered. Call buttons should have a minimum diameter of three-fourths inch. Hall signals should announce "UP" with one audible signal and "DOWN" with two audible signals.

-- Elevator operations should be automatic and each cab should have self-leveling features.

■ Special Features for Visually Impaired Individuals

Many people in the United States do not have one of their most precious senses--sight. However, they have little

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difficulty in communicating, and the senses of touch, smell, and hearing become more acute. Although they are mobile and have access to places from which wheelchair users are excluded, some adaptations are recommended.

-- The person with a visual impairment should be oriented to the building; memory will serve for repeat trips.

-- Raised/indented characters for door numbers, elevator buttons, and room designations are helpful. Room designations should be centered at 50 inches from the floor.

-- Knurling (a roughing of the surface) on door handles, knobs, pulls, and other operating hardware should give warning to dangerous areas, such as loading platforms, boiler rooms, and stages.

-- Hard floors give audible cues, and visual signals should be reinforced with audible signals.

-- Handrails on stairs should have horizontal extensions of 12 inches at top and bottom to indicate the last step.

-- Floor openings should be surrounded by railings for protection from falling.

-- Low-hanging objects in the path of travel should be eliminated (Humanscale, 1974).

■ Special Considerations for Older Workers

Structures should accommodate persons of all ages. Individuals over 50 years of age may begin to experience physical limitations brought on by the aging process. Because of changing abilities, these people require different design standards than younger people. Thus, furniture should be adjustable, space arrangements should be flexible, and hazards should be eliminated. Because individuals over 50 years of age

are being encouraged to stay in the work force, the following should be considered in the workplace.

-- Treads or non-slip strips should be used on steps.

-- Overpadded carpeting can cause tripping.

-- Single risers should be identified with a strong contrasting color to call attention to a change in floor elevation.

-- Handrails should be smooth and round for a comfortable, safe grip. The best diameter is 23 inches.

-- Lighting on stairs should be adequate because poor visibility can lead to accidents.

-- Full-length transparent doors should be marked, and door windows should be unbreakable.

-- Doors should not open directly into hazardous areas, such as stairs or traffic.

-- Automatic door closures should be adjusted to make opening doors easy. Doors should close slowly and stop on touch (Humanscale, 1974).

Services

Personal
Needs

■ Accessible toilet rooms

-- Accessible toilet rooms should be on an accessible route.

-- A 5 foot x 5 foot clear floor space is required to allow sufficient turning space for wheelchairs.

-- Toilet stalls

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□ Toilet rooms should have at least one toilet stall that is 3 feet wide and 4 feet 8 inches or 5 feet deep, an entrance or door to the stall should provide not less than a 30 inch clear opening when located at the end and not less than 34 inches when located at the side, and the stall door should swing out.

□ The toilet stall should have grab bars on one side secured 32-34 inches above and parallel to the floor. Grab bars at the side should not be less than 42 inches long with the front end positioned 24 inches in front of the toilet stool.

□ Grab bars should have an outside diameter of about 1.5 inches, with 1.5 inches clearance to the wall.

□ The height of the stool should be 17-19 inches, measured to the top of the toilet seat.

□ An accessible urinal is stall-type or wall-hung with an elongated rim at a maximum of 17 inches from the floor (American National Standard, 1980).

-- Lavatories

□ Lavatories should be mounted with a clearance of at least 19 inches from the floor to the bottom of the apron.

□ Hot water and drain pipes under lavatories should be insulated or otherwise covered and have no sharp or abrasive surfaces.

□ Controls should be operable with one hand and not require tight grasping, pinching, or twisting. The force required should not exceed 5 pounds.

-- Mirrors should be mounted with the bottom edge no highe. than 40 inches from the floor.

■ Water Fountains

-- At least one water fountain on a floor should have upfront spouts and controls, be hand-operated or both hand- and foot-operated, and be no more than 34 inches above the floor.

■ Telephones

-- All operating mechanisms should be no more than 48 inches above the floor.

-- Headsets should have adjustable volume control with instructions for use.

-- Tactile instructions for use by persons with visual impairments should be in raised or recessed lettering.

■ Controls

-- All control devices for light, ventilation, and windows should be mounted no higher than 48 inches from the floor.

Policies and Procedures Discourage Workers with Special Needs

Many practices and procedures are discouraging individuals with special needs who want to work. Many individuals want to remain productive after an accident or disease or as they become older, but they find the workplace is not open to them. The concepts behind these employment practices are many.

Affirmative action procedures do not allow discrimination against workers who are older or disabled in employment where federal funds are used, but this does not mean that

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Agreement Not To Hire After Age 60

these persons will be hired. Often, the unwritten and unexpressed opinion of hiring personnel is that the individual will not be as effective a worker as the nondisabled or younger person with the same background, training, and experience. Individuals who are older or disabled are discouraged from continuing a useful work life.

Management Practices

Specific practices in both government and industry which make working conditions more difficult for persons who are disabled or aged include: entrances and parking spaces available only to special elite groups; locked doors on the nearby entrance with small notations that entry is to be made at a distant entrance; keys available to select persons for certain entrances, such as rest rooms; closed, heavy fire-doors which are encountered after entry through an accessible entrance; and swinging or revolving doors as the only entrances, without attendants to help individuals with special needs

Competitive Business

The competitive job market may be closed to the severely handicapped or the slower older worker. Employers who are in competitive businesses cannot afford to have substandard producers. Governments should subsidize these marginal workers or provide employer incentives to earmark suitable positions for these workers.

Labor Market in Local Area

The rehabilitation professional has no control over the labor market in a local area, that is, character (number of appropriate jobs) and fluctuation (depression or seasonal production) of jobs. It appears that workers who are older or disabled are the last to be employed in an expanding economy and the first to be terminated in a recession.

Attitudes of Coworkers

Most employees are willing to accept persons with special needs, but many are slow to accept individuals with certain disabilities, for example, epilepsy and emotional problems. Individuals with a highly visible orthopedic disability which does not hinder function in the workplace are most accepted; it is easy to see and understand the orthopedic disability.

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Also, the work site is a social situation. Individuals are chosen on the basis of how they fit into the personal and social lives of the employees. Hiring officials may ask themselves if the proposed employee will fit into this atmosphere or constitute an additional burden.

Other factors work against individuals with special needs finding employment, including the unity of the rehabilitation program. If the program has not included the development of an adequate level of independent living skills, the individual may find further barriers to employment.

The Work Site

The
Individual's
Work Station

The design of the interior space at the work site is crucial to effective performance. The effective work site should have the following features:

■ Lights, switches, and controls should be about 36 inches from the floor and horizontally aligned.

■ A telephone should be within reach of the employee's work site. If a wall phone is used, controls should not be more than 48 inches (frontal reach) or 54 inches (side reach) from the floor.

■ Adequate lighting without glare that can be adjusted to different levels. (Often the gooseneck lamp is an ideal addition to the work site.)

■ Adequate space for wheelchairs, which require more space than a chair, must be allowed with the following considerations:

-- The length of a standard wheelchair is 42 inches, its width is 25 inches when open, the height of the armrest is 29 inches from the floor, and the seat is 19.5 inches from the floor.

-- The turning space required for the standard wheelchair is 5 feet x 5 feet.

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-- Knee clearances at tables, counters, and work surfaces should be at least 27 inches high, 30 inches wide, and 19 inches deep.

-- The height of tables and work surfaces should be 28-34 inches from the floor. Note: Individual differences in body measurements should be considered. The measurements listed here are averages. Adjustments to meet individual requirements are necessary.

-- A small, electrical, tabletop console with many switches is useful for controlling items such as telephones, light fixtures, appliances, projectors, and tools at the work site, and they can be arranged easily. Rocker light switches are an asset to individuals with limited use of fingers.

One of the most ignored elements of a successful work situation is the social environment. If a person with a disability feels comfortable at the work site, much can be accomplished. Therefore, it is right to ask--what are the elements of good social situa   is? Are the workers friendly? Does the work site provide enough room for individuals, such as tabletop space and ample room for movement? Is there adequate lighting without glare? Are safe tools provided for the work? Do the supervisors and other superiors show a caring attitude? And, most of all, is the production schedule at a level that allows the worker with special needs to be successful?

An appropriate production schedule; a comfortable work situation; caring, friendly associates; and an accessible work site enable workers with special needs to achieve successful employment.

Arrangement of Tasks

An orderly arrangement of work is crucial for any person to complete a task successfully. Tasks need to be

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considered on the basis of variables. These variables are described in Chalupsky and Kopf (1967) as follows:

■ Speed of task performance. Tasks requiring rapid performance are based on a training program so that fast actions or reactions are developed.

■ Task complexity. Complex tasks may require the use of performance aids.

■ Frequency of task performance. Jobs performed on a frequent basis should have priority in a training program.

■ Length of work cycle. Lengthy tasks may require performance-aiding rather than training. It may be difficult to remember the steps in a lengthy procedure.

■ Task stability. Because these tasks are part of the work assignment over a period of time, performance aids, including technological performance aids, may be useful.

■ Task flexibility. When tasking sequences are critical, procedural job aids are necessary. When there is freedom to vary the order of task performance, procedural aids are reduced.

■ Task precision. Performance aids that use high technology may be required for tasks with extremely close tolerances.

The arrangement of tasks should be as follows:

■ Move from simple to complex tasks.

■ Develop a set of clear instructions; each aspect of the task should be broken down into its parts and clearly written procedures should be provided.

■ Select and provide appropriate training and performance aids, according to the complexity of the task and the ability of the individual.

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■ Provide elasticity periods that allow for the learning/teaching of individual tasks.

■ Arrange tasks to maximize the worker's use of warm-up time and work plateau. Also, decrease weariness and lowered productivity by using practices such as alternating heavy and light tasks and offering frequent rest periods.

■ Supervise with supportive words of encouragement (verbal rewards).

Matching of skill levels to appropriate tasks is critical to success on the job for people with disabilities. Attention should be given to the person's coordination of upper extremities, fine finger movement, strength and endurance necessary to perform the task, and overall manual dexterity.

Similarly, mental capabilities are crucial. The person must be able to concentrate for appropriate periods of time, and the attention span must be long enough to complete the task. Most of all, the individual must be able to remember the procedures and skills of the first days training/instruction for the next day's work. Thus, both physical and mental capabilities must be fitted to tasks that have been arranged in an orderly fashion.

Impairments Requiring Adaptation

Adaptations Can Be Physical, Procedural, or Social

Through experience, rehabilitationists have found the adaptations that remove the "dis" from "disability" to produce the "ability" in the workplace. These adaptations may be physical, procedural, or social. To effectively analyze disabilities, they must be categorized as physical, cognitive, and social/emotional.

Physical Impairments

■ Difficulties with hearing

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Adaptations may include:

-- Special telephone connections for speaker and receiver through a TTY

-- Light or vibrator devices attached to sound signals, for example, telephone and doorbell connected to a light or vibrator

-- Hearing aids

■ Difficulties with speaking

Adaptations may include:

-- Portable communication board with or without synthesized voice

-- Sign language

■ Difficulties with seeing

Adaptations may include:

-- Computers with interfaces for typing braille and producing synthesized speech

-- Low-vision aids

-- Reading probes with tactile display

-- Large letters and print

-- Material produced in braille

■ Limited strength, dexterity, coordination, or range of motion

Adaptations may include:

-- Enlarged touchtone buttons on telephones

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-- Bar or handle assists, firmly anchored, wherever added stability is needed, as at work counters

-- Reachers

-- Wheeled tables and carts

-- Light switches and other controls that are large and spaced for easy contact

-- Lips around the edges of work surfaces to keep materials in place

-- Most frequently used items placed at height nearest that of easiest use

■ Inability to use upper or lower extremities

Adaptations may include:

-- Barrier-free buildings with accessible routes

-- Fisheye window insets and wall mirrors to increase field of vision for persons who have difficulty in moving their heads

-- Speaker phone and adjustable headset receiver

-- Shallow drawers and shelves easily seen and reached; counters continuous for sliding materials

-- Most frequently used materials placed within 18 inches for ease of reach

-- Lazy-susan type device for reference materials

- Difficulty in sitting

Adaptations may include:

- -- Chairs with mechanical lifting devices

- -- Cushions for stability and support

- Limitations in feeling and sensation

Adaptations may include:

- -- Protection from heat sources, sharp corners, and edges

- -- Removal of all projections in floors and walls

- -- Adequate storage for sharp objects and hazardous materials

- Susceptibility to fainting, dizziness, or seizures

Adaptations may include:

- -- Bar or handle assists, firmly anchored, wherever added support may be needed

- -- Storage spaces for most frequently used items not below 20 inches or above 58 inches from floor

- -- Wheeled table for carrying items and giving stability

- -- Emergency alarm at work site to alert proper authority that assistance is needed

Cognitive Impairments

- Inability to read

Adaptations may include line drawings showing tasks, procedures, and materials

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■ Inability to make simple computations

Adaptations may include:

-- Abacus or calculator

-- Wall chart with needed computations in pictures/numbers

■ Inability to understand instructions

Adaptations may include:

-- Line drawings of step-by-step procedures

-- Color-coded instructions and materials

■ Inability to retain information

Adaptations may include:

-- Written instructions in plastic-covered sheets for frequent referral

-- Reminder notations placed strategically at work site

■ Inability to reason or solve problems

Adaptations may include:

-- Cue cards with questions appropriate to task, taking individual through problem-solving steps (should be of size to fit in a shirt pocket for quick referral)

-- Posters of problem-solving questions on walls

■ Inability to discriminate

Adaptations may include:

-- Use of color codes for related parts

-- Sequential placement

-- Use numbers for steps in process

Social and Emotional Impairments

■ Inability to cope or respond to stress

Adaptations may include:

-- Assignment of routine tasks which have flexible completion times

-- Work site with minimum of distractions

-- Work site colors are cool, such as blue and green

-- Limited number of individuals in same work environment; reduces noise level

■ Difficulty relating to others

Adaptations may include:

-- Assignment of one coworker for developing friendship

-- Use of positive speaking techniques in communication

-- Use of positive verbal reinforcement

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■ Inability to concentrate

Adaptations may include:

-- Assign tasks which gradually increase the time of concentration

-- Remove distractors, such as other persons who interfere, loud noises, and movement around the work site

--- Background of soothing, pleasing music

Effective Accommodations

Effective accommodations can be found in newer facilities, in work sites, in procedures advanced by supervisory personnel, and in equipment available through new technologies.

Facility Accommodations

University of Nebraska-Lincoln

The home economics building at the University of Nebraska-Lincoln was developed as a model of accessibility following the guidelines included in the 1968 federal law that mandates accessibility in public buildings.

Building accommodations include doors automated with electronic openers and push-buttons, non-slip flooring for entrances and hallways, stairways with appropriate treads/risers/handrails, signage for persons with visual impairments (raised lettering or braille), toilet accommodations for all types of transfer requirements, lowered water fountains interior ramping with rest level, and lowered telephones.

The Educational Center for Disabled Students at the University of Nebraska-Lincoln has many computers with adaptations that demonstrate how technology can help students with disabilities be effective in academic work. This demonstration project for the Midwest was funded by Special

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Education: Post-Secondary Division. Students leaving the university after experience in this center will have developed the skills needed to use computers to help them function effectively.

Models of halfway houses, such as the Disabled Student Program at the University of Illinois-Champaign/Urbana, and models of work sites used for assessing and training individuals with disabilities at various state rehabilitation agencies across the nation show the abilities of these individuals when they are surrounded by appropriate accommodations and trained to use them.

Job Progression and Assignment

The DuPont Company has made a concerted effort throughout its plants and offices to ensure that individuals with disabilities have equal opportunity in their development.

Similarly, the Hughes Aircraft Company pioneered in hiring the handicapped for all levels of work. Demonstrations of work sites with appropriate accommodations are available on film.

The President's Committee on Employment of the Handicapped works with employers and persons with disabilities. Its major goal is to help persons with disabilities to help themselves. To advance this effort, the volunteers and staff of this agency conduct national education and information programs to eliminate physical and psychological barriers. It also promotes education, rehabilitation, and employment opportunities for persons with disabilities; promotes community acceptance of persons with disabilities, and provides leadership and technical support for state governors' committees on employment of the handicapped.

Job Simplification

The person with a disability who has a job must develop and use easier, quicker, and more effective ways of

performing tasks. Jobs must be analyzed and subdivided for additional study by any of the following:

The questioning approach advocated by Frank and Lillian Gilbreth.

WHAT is the job to be done?

WHY should the job be done; is it necessary?

WHERE should it be done; could energy and time be saved if it were done somewhere else?

WHEN should it be done?

WHO should do the job? Could another employee do better?

HOW should it be done? Must there be some adaptation of equipment or work site? Is there a need for new tools or technical equipment? Will the finished product be acceptable?

Another simple outline, which has been drawn from the work of various human factor engineers, requires the supervisor and the employee to analyze four classes of change:

Class A. Change in the worker
        Does the individual need training?

Class B. Change in the product
        Can the raw material be changed?
        Can the finished product be changed?

Class C. Change in the environment (the work site)

Class D. Change in movement of the '...ly

Many methods and approaches may be used to study and simplify jobs, but some general principles can be applied to most work sites:

- Make sure that the worker is in a comfortable position.

- Pre-position tools at the point of use.

- All necessary equipment and supplies should be located in one area for various activities (work centers).

- Establish a plan of work; work on an assembly line basis.

- Use wheelchair or cart on wheels to transport items or people. Do not carry.

- Push or pull instead of lift.

- Adjust heights to eliminate excessive bending, stooping, and reaching.

- Plan rest periods--10 minutes of each hour if possible.

- Make sure ventilation and lighting are good.

- Use both hands for greater efficiency and speed.

Specific adjustments must be made for people with various disabilities. Generally, sensory disabilities require color and value cueing, use of large letters on signs, and auditory and tactile cues. Examples are the large numbers now used in telephone directories and on telephone dials. Computer software provides the visually impaired with a braille box and a voice synthesizer.

Technologies are being produced daily to help persons with disabilities become productive, participating citizens in all aspects of life, including the workplace. Many of the ideas for these devices come from the innovativeness of persons with disabilities. With a little support and encouragement,

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especially at the workplace, individuals with physical disabilities are great problemsolvers.

Equipment Accommodations

Use Devices
and Aids

ABLEDATA, a database of equipment for persons with disabilities lists 10,000 devices, and each could be the key to successful performance on the job.

If chosen correctly, devices should help individuals function to the best of their abilities within the range of their physical or mental limitations. Rusk (1977) outlines the following important points to consider in the selection and use of equipment:

■ The device should be necessary.

■ It should save time.

■ It should save energy and prevent overuse of weak muscles.

■ It should provide for safety.

■ It should meet the requirements applicable to all equipment, such as durability, cleansability, ease of maintenance, and frequent use to justify storage and cost.

Doors that open and close successfully with LCN closures, made by Schlage Lock Company, have been useful. The force of the door and the delayed time mechanism can be adjusted.

The Sensory Aids Foundation in Palo Alto, California, developed an adaptation that allows a computer programmer to perform efficiently all required duties by relying on a closed-circuit television that enlarges computer print to 60 times its normal size.

Wheelchairs that can be used both indoors and outdoors are common. Telephones that can be activated by the sound of a voice and do not have to be lifted have been developed.

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Reachers that can be folded and carried in a pocket are available. Cars now have special features so people with disabilities can drive them to work without using their feet.

Pre-vocational training is done through Control Data at home, by use of computer software called Homework, which is delivered by the Plato computer-based education system. Control Data also provides training for people with disabilities in clerical, computer, and electronics positions.

Information about any device can be researched for $10 through ABLEDATA.

Problem-solving Approaches or Determining Reasonable Accommodation

A worker is involved physically and mentally in the work situation. Most jobs are a combination of physical work (transporting, cutting, bending, assembling, regulating, or finishing materials) and mental work (planning, computing, judging, or directing). The mental and physical abilities of workers are used to solve problems. The problem-solving approach consists of the following six steps:

Identify the Problem

What Are the Real Problems

The supervisor and the employee together can consider the tasks in the job. What tasks are involved? What tasks cannot be done? What is the frequency for performance of the tasks which are causing problems? The employee should participate in this identification.

The supervisor should also look for problems, such as the work being too repetitive, too much time being taken to complete the work, bottlenecks or backlogs occurring, too much paperwork required, or too many people involved in the process. The problem must be identified before advancing to the next step.

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Define the Problem

Define It

A well-defined problem is half solved. The problem may be that a work counter is too high, equipment is not within easy reach, or the equipment is inappropriate. The usual methods or processes used to accomplish a job, the point at which the worker with disabilities is not able to proceed, must be reviewed.

Develop Alternatives

Brainstorm

All possible alternatives should be considered. These are best written down through a process of "brainstorming." This step does not include evaluation of ideas--the focus is only on identifying options to solve the problem.

For instance, if an adaptive technique is used, which ones might be appropriate? What assistive devices might be obtained to do the job? Should the job be re-engineered--maybe a chute for delivery of all parts at the place of use, left-hand controls instead of right, leg controls instead of arm? Is an orthotic device required to aid the functioning of the body--in supporting body weight, controlling joint motion, changing the shape of body tissues? Does the job itself need to be modified--maybe parts of jobs can be interchanged between workers? Maybe the 8-hour day can be adjusted?

Select an Alternative

Evaluate Alternatives Based on Criteria

After all of the alternatives have been generated, the process of evaluation begins. Criteria should be established in order to accept an appropriate accommodation. For example, will it allow the individual to do the work? Which accommodation would be easiest to install or implement? How long would it take to obtain the device or adjustment? How much would it cost? Which idea is not acceptable to the worker, the co-workers, or the supervisor? Then evaluate each alternative according to the established criteria and choose the alternative.

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Install or Implement Accommodation

Make
Necessary
Changes

Acceptance of a new method, technique, or device may take time. Assistance may be needed in living with and utilizing the new adjustment. For some individuals, change is difficult. The supervisor must be prepared for some degree of resistance, anxiety, and even rejection. Changing to a new method of technology requires a learning process which takes time. A new way may not seem better at first, but the worker must be encouraged to stick with it and give it a chance. Many of the devices and modifications recommended for individuals with physical disabilities have been tried before with immediate success and satisfaction.

Follow-up

Evaluate
the
Results

Feedback on the adjustment is required after it has been in use. Has the accommodation really remedied the problem? Has it produced problems? Is it accepted by the other workers in the work site? If the solution is a good one, accept it. If the problem still remains, select another alternative and repeat the process of implementation and follow-up.

Problem-solving Model for Accommodations

■ Identify the Problem

■ Define the Problem

■ Develop Alternatives

■ Select Alternative

■ Install or Implement Accommodation

■ Follow-up

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Chapter 6

Specific Training Strategies
for Integrated, Supported Workplaces

Michael Callahan

Introduction

*Systematic
Instructional
Strategies*

The need for systematic instructional strategies that are effective in facilitating vocational opportunities for persons with special needs has been recognized for nearly 15 years (Gold, 1973). In 1973, Gold found that vocational literature was replete with descriptions of programs, but it did not contain any concrete procedures for employment training of persons with severe mental, physical, and emotional impairments.

*Descriptions
of Training
Strategies*

By the 1980s, descriptions of effective training strategies to facilitate integrated employment began to appear (Gold, 1980b; Wehman, 1981; Moon, Goodall, Barcus, and Brooke, 1985; McLoughlin, Garner, and Callahan, in press; and Rusch, in press). These strategies have several themes in common:

- They stress the use of task analysis and job inventories for organizing the information to be taught.

- The employee should be able to perform quality work at the highest degree of productivity if the techniques are applied correctly.

- Data are recorded, as necessary, to ensure the success of the individual at the workplace.

- The job-site trainer is responsible fo:)viding the instruction of all job tasks and job-re' ·. tasks or for facilitating instruction of tasks throug.. cooperation and coordination with on-site personnel and others.

■ Integrated workplaces are viewed as the most effective environments for teaching and learning job skills.

Employees Providing Job Coaching Services

Job Coaches
Facilitate
Success

Demonstration
Projects

On-the-job trainers or job coaches often have been employed in traditional segregated programs. The primary responsibility of job coaches is to facilitate the job success of individuals with special needs. Demonstration projects show that the roles of the supported work job coach and the sheltered workshop employee are vastly different.

Responsibilities
for Job
Coaches

The job coach will need respond to a new, uniquely different role, as will the rehabilitation counselor. The following is a partial listing of responsibilities for job coaches.

■ Job coaches must be aware of the unique differences of community-based work settings. The dress code, behavior, jargon, and culture of a work site vary from company to company. Job coaches must be careful not to expect community work sites to be similar to sheltered programs.

■ The job coach may be responsible for identifying the work sites where the training and employment will occur. The relationship a job coach must develop with an employer to secure a supported work position is quite different from the typical subcontractor relationship used for sheltered programs.

Job
Analysis

■ Job coaches must know all of the requirements and needs of a particular job. This is job analysis. The analysis must include all of the related and subtle skills that will affect the success of supported work services.

■ Job coaches may be required to structure tasks so that a worker with severe disabilities can be successful. This requires employer approval.

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Systematic Training Skills

■ The job coach must have systematic training skills that assist persons with severe disabilities, including persons with excess behaviors and accompanying physical limitations, so that they can successfully perform their jobs. These skills should include effective strategies for decreasing assistance to the greatest degree possible.

■ The job coach must actively participate at the work site to ensure production, to relieve the worker in emergencies, and to gradually increase the job responsibilities of the employee with special needs.

■ Job coaches must facilitate relationships between coworkers and supervisors and the person with disabilities. This may be the most vital activity for ensuring long-term success.

■ Job coaches are expected to implement strategies to provide training and support through coworkers and supervisors. This requires the job coach to balance the needs of the worker with disabilities with the cooperation and assistance available at the work site.

Individualized Employee Agreements

■ Job coaches must provide services on an ongoing basis for as long as necessary for each worker. They must develop individualized employee agreements with employers, specifying the form of ongoing support to be provided.

■ Job coaches must be prepared to offer assistance and training for needs and skills required outside the work site. This may include providing transportation and financial assistance and resolving family or personal problems.

■ Job coaches must communicate regularly with employees and their families or residential providers, and promote communication between the employer and the employee's home. Effective job coaches recognize that individual's work lives and personal lives are connected. Traditional service trainers often disregard this connection.

Job Coaches	■ Job coaches must be able to resolve problems that occur
Troubleshoot	at work sites. Problems encountered include meeting
Problems	production requirements; developing a method for

Job Coaches Troubleshoot Problems

■ Job coaches must be able to resolve problems that occur at work sites. Problems encountered include meeting production requirements; developing a method for performing tasks; maintaining relationships with coworkers; and preventing boredom, frustration, and absenteeism.

Success of Supported Work Jobs Linked to Abilities of Job Trainers

The skills required to be an effective job coach become evident from the responsibilities. The array of skills needed to provide effecti 'e supported work rarely occur in a person by chance. They must be developed through training, hands-on experience, ongoing support (as with the person with disabilities), and administrative decisions which promote, rather than discourage, longevity on the job.

The success of persons with disabilities on supported work jobs is strongly linked to the abilities of the job trainer. Many job coaches receive offers from the companies that employ the people they train. Therefore, it is important to provide job coaches with competitive salaries and supportive working conditions to minimize turnover and burnout.

Job Coaches Experience Controversy

Little information is available concerning the qualifications to consider when hiring job coaches or trainers. A report published by the Office of Special Education and Rehabilitative Services (OSERS) (Berkeley Planning Associates, 1985) outlines a controversy that is expected to grow as supported work services become more available. That is, should job coaches be specially trained professionals or should they be recruited from employees with experience in the kinds of employment they are facilitating? Both may be the answer.

Nonprofessional Job Coaches Benefit from Training Strategies

It is reasonable to recruit persons who are already working in integrated, typical work environments. They do not have to give up established ways of thinking about persons with disabilities and they know what it is like to work at real work sites. However, persons with severe disabilities often require strategies that are not evident or available in most work settings. Therefore, nonprofessional job coaches would benefit from training that addresses strategies for facilitating supported employment. Another disadvantage with

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the "hire experience" strategy is that supported work for many persons with disabilities will probably not take place at the same type of business.

Conversely, many employees of traditional programs are anxious for new and more meaningful work. Many already have training and behavioral skills and would be expected to have real job experience before entering the human services profession. Agencies should seek out interested persons and recruit them for job coaching positions. These individuals should also be trained in community-based training strategies.

Another reason not to exclude human services professionals from consideration as job coaches is that current piograms may be threatened by supported work programs. Indeed, there are indications that this is already happening. This could cause some traditional programs to not offer supported work services for the people they serve.

Systematic Instructional Strategies

Effective and Acceptable Training Skills

Job trainers must possess organizing, training, and facilitating skills that are effective and acceptable in community-based businesses if persons with severe disabilities are to be successful in integrated work settings.

Experience of Marc Gold and Associates

The following topics will not be discussed, although they are important for job trainers: (1) the rationale for providing training in natural work settings, (2) strategies for organizing the information to be taught, (3) strategies for facilitating acquisition, production, and support of job responsibilities, and (4) ways the job coach can relate to the employer's specific needs. Most of the following information reflects the experiences of Marc Gold and Associates during 10 years of direct job placement and training of professionals and individuals who are labeled unemployable. Marc Gold and Associates provides training and support to agencies, companies, and individuals involved in providing integrated opportunities for persons with severe disabilities.

Training in Natural Work Settings

Traditional vocational learning environments for persons with disabilities have been limited almost exclusively to sheltered, segregated programs. These programs emphasize evaluation for the purpose of placement within the continuum, preparation for readiness to work, and an industrial-like setting. But, these programs offer the only alternative for persons with disabilities to learn to work. Again, regardless of the range of other activities of sheltered programs, they do not provide sufficient access to integrated employment for the people they serve. This may be because: (1) sheltered programs teach people to work in sheltered programs rather

than in community-based jobs (the demands and conditions of real workplaces simply cannot be duplicated) and (2) people with more severe disabilities have greater difficulty generalizing work skills from sheltered to real work environments. Therefore, the skills that are learned in programs are often not applied in regular jobs.

The concept of supported work is based on the assumption that people with disabilities, even persons with severe disabilities, can learn work skills in the same community-based work settings where they will use their skills. In fact, persons who have difficulty generalizing skills from one environment to another need to learn t: work in the same place where they will perform the work.

This concept of on-site training for persons with severe disabilities is illustrated by Brown, Nietupski, and Hamre-Nietupski (1976) in the *Criterion of Ultimate Functioning*. The authors suggest that community-based instruction is not only feasible but preferred for students with severe disabilities. Since 1976, more studies have supported this approach in a variety of community-based vocational environments (Rusch, Weithers, Menchetti, and Schutz, 1980; Alper, 1981; Brown, et al., 1983; and Wehman, 1982 and 1985).

Studies show that training provided at integrated work sites is effective in teaching job skills and responsibilities to students and adults with severe disabilities. However, if these

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Teaching Skills in Ultimate Environment	procedures were only marginally effective, or even less effective, it would be justifiable to provide instruction at the place where the skills are to be used. In order to teach skills in a natural or ultimate environment, the individual must be in that environment. The role of agencies becomes one of developing and supporting integrated vocational opportunities, rather than providing sheltered, pre-employment training.

Organizational Strategies for Community-based Job Sites

Individually Focused Decisions	There is no single process for developing integrated, supported work opportunities and for training and facilitating the successful performance of workers with disabilities. Procedures will result from individually focused decisions that balance the needs and skills of the worker with the demands, support, and flexibility of the employer. The following strategies have been successful in many, but not all, situations.

Job Analysis

Gathering and Organizing Job Information	Before the job coach can begin to train an employee with disabilities on a supported work job site and before an effective employee job match can be made, information about the job must be gathered and organized. This is job analysis. Job analysis provides the information needed to facilitate an effective job match with a prospective employee and ensures that the new employee is successful in performing the job.

The Job Analysis Process

The following is a typical flow of job analysis procedures used for supported work sites.

- Develop the job site and the targeted job responsibilities with a particular person in mind.

- Capture all job components and requirements through tours and site visits.

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■ **Consider** all job information in relation to the persons targeted for the position. If the fit seems right, go on to the next step. If not, develop another job or target another prospective employee.

■ **Decide** if there is a need for a detailed job analysis and inventories for various tasks/routines of the job. The employer may consider some tasks especially important. Other tasks may correspond to an identified deficiency in the prospective employee. Job coaches typically choose to train the most critical routines and may work with coworkers and supervisors to train the less critical and infrequently performed routines.

*Job Coaches
Usually
Train Most
Critical
Routines*

■ **Visit** the job site to begin a detailed job analysis for the tasks/routines identified in the preceding step.

■ **Observe** how employees perform various routines.

■ **Learn** the routines from someone at the job site. Notice the procedures, cues, supervision, and complexity of the routines.

■ **Perform** the routines that are new to you, until you have a feel for the job.

■ **Write** task analyses and inventories for the tasks/ routines you think will require the most intervention. Record the steps of the analyses and inventories to reflect the needs of a typical employee of the company. The methods used in the company and, if necessary, the needs of the employer should be reflected when choosing various tasks/routines.

■ **Get approval** from the employer for the methods chosen for the tasks/routines to be trained and any modifications or adaptations which you have devised.

*Cues and
Consequences
in Work
Routines*

■ **Identify** natural cues and consequences in the work routines of the employee. For example, in one business the natural cue to take a break might be that the clock

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shows 10:00 a.m., and the consequence of not responding to the natural cue is that you miss your break. In another company, the natural cue to take a break may be a buzzer sounding and workers leaving their work stations, and the consequence of not responding may be that the supervisor comes by and says, "It's time for a break!"

■ **Consider** potential training strategies, motivating strategies, possible adaptations, and opportunities for job restructuring and partial participation with other workers, based on your knowledge of the needs and skills of the employee. Develop data sheets that reflect the number of steps you expect the employee will need to perform the task/routine. The data sheets should be based on the steps identified in the analyses and the routines developed.

Remember Names of Employees

■ **Meet** and get to know coworkers and supervisors. Try to remember names of employees so you can facilitate introductions when the new employee starts work.

■ **Find** out company policies, acceptable dress codes, orientation procedures, and other components of the company's culture.

■ **Communicate** with the employee and the employee's family after setting a start date, and **begin training.**

Training and Facilitation Strategies

Capturing Requirements of a Job

When deciding the tasks/routines to be trained directly and the strategies that might best facilitate successful performance, the job coach may consider organizing the requirements of the job in the following categories (Marc Gold and Associates, 1986):

■ Core work routines

■ Episodic work routines

■ Job-related routines

■ Accommodating to the culture of the company

Almost all of the requirements of any job can be placed into one of these categories, which are equally important. The categories are useful because each may require distinctive organizational and intervention strategies. Workers may experience problems in any area or in many areas. For instance, employees can lose their jobs just as easily for not coming to work (culture of the company) as for insufficient quality on the tasks performed most often during the day (core work routines).

Core Work Routines

Core
Routines
Usually
Performed
by Employee

These are job routines that have naturally repeating cycles without significant interruption between the cycles. The cycle of a task begins with the first step of a job sequence and ends with the step that precedes the first step of the next sequence. Core routines are also routines that are likely to be performed by the employee.

Examples: Restaurant - Busing tables
Operating a dishwasher
Sorting silverware

Supermarket - Stocking shelves
Bagging groceries

Factory - Operating an injection molder
Assembling electrical
components

Organizational Tools. Task analysis involves organizing the above routines into teachable, sequential steps. A sample (and abbreviated) task analysis for operating a commercial dishwasher in a pizza restaurant might be as follows:

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Dishwasher Operation

1. Place the rack on the rinse table.

2. Load rack--large pans in rear, plates in front.

3. Rinse dishes with spray nozzle.

4. Check for stuck-on food, re-rinse if necessary.

5. Make sure the dishwasher is not running.

6. Raise the door on the dishwasher.

7. Slide the rack into the dishwasher, pushing the clean rack out the other side.

8. Close the door of the dishwasher to begin wash cycle.

9. Move to the sort table.

10. Remove similar items from the rack and stack on the table.

11. Place stacked items on the appropriate shelves.

12. Continue numbers 10 and 11 until all items are shelved.

13. Return the rack to the rinse table.

Facilitation Strategies. For most core routines, the job coach will train the employee. The trainer may modify the sequence of steps or devise an adaptation to help the employee perform the task.

Job creation or redesign is another strategy where the
Job Creation trainer may restrict the parameters of the job. For example,
or Redesign in the above sequence one worker may only load the dishwasher while another worker performs all of the other steps. Any job restructuring, adaptation, or significant

modification of a routine should always be cleared with the employer before implementation.

Evaluation of the Worker. Performance evaluation of core routines can easily take place during training. The trainer should take sufficient data to make training decisions and to explain the worker's performance during the acquisition and production of the routines.

Episodic Work Routines

Episodic work routines are routines that are required for the job but have cycles that occur infrequently--two or three times per shift, once a day, or a few times per week. These routines are often more difficult to teach because of the time lapse between cycles.

Examples: Restaurant   -   Cleaning the dishwasher at the end of the shift

Supermarket -   Punching a time-clock; assisting a coworker unload a truck

Factory   -   Filling out production forms; getting supplies for he work station; lubricating a machine

Organizational Tools. The organizational strategy for ordering the skills of an episodic routine is an inventory. It is compiled by observing the way typical workers perform various routines.

A sample inventory for cleaning the dishwashing work station at the end of a shift might be as follows:

Inventory for Cleaning Work Station

1. Stop dishwashing duties 10 minutes before end of shift.

2. Stack and store all clean items from stack table.

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3. Place all remaining dirty dishes in rinse sink.

4. Place all racks on shelf below rinse table.

5. Locate cleaning bucket, cloth, and cleaning solution.

6. Fill cleaning bucket with warm water.

7. Spray cleaning solution on rinse table.

8. Wipe table with damp cloth until clean.

9. Repeat steps 7 and 8, cleaning the dishwasher and the stacking table.

10. Empty cleaning bucket, rinse cloth, and return cleaning items to storage cabinet.

Evaluation Strategies. Evaluation strategies are considered before facilitation strategies for episodic work routines because they will occur before training in the work setting. Because the cycles of these routines do not naturally repeat on the job, traditional and fading strategies will probably not be as effective as for core work routines.

Job-referenced Evaluation

The trainer, however, can reduce the number of skills to be learned by performing a job-referenced evaluation based on the skills identified in the inventory. After the trainer or a coworker has demonstrated the routine to the new employee a few times (preferably during the typical time for the routine), the trainer asks the employee to perform the routine. The trainer notes the actual performance of the worker for each skill of the routine. If the worker is uncertain about what to do or if an error is made, the trainer gives enough information so the routine can progress. By carefully considering each step of the evaluation, the trainer can plan how to best teach the steps of the routine.

Facilitation Strategies. Because the work station is cleaned only once a day, the trainer may consider several strategies to ensure successful performance of this routine by

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Actual Performance of Worker Noted

following the inventory example above. For example, the employee has difficulty with the first step of the routine, stop dishwashing duties 10 minutes before the end of the shift. During the job-referenced evaluation, the worker did not recognize 2:20 p.m. as the time to stop washing dishes and kept working. The trainer could intervene with several strategies which could be considered in a sequential manner.

Trainer Can Intervene

■ Train the skill

    -- In the regular sequence

    -- By increasing the frequency of the sequence[1]

    -- By mass trials of the skills

■ Adapt/modify the skill[2]

■ Arrange for partial or co-performance of the skill with coworkers.

If the trainer knows, for example, the worker received time-telling instruction in school for years and was still having difficulty, it would not make much sense to provide instruction during the regular performance of the routine at the end of the day. A better decision might be to introduce an adaptation, say a large photograph of the kitchen clock showing 2:20 p.m. taped under the clock. The photo would be a sample for the worker to match to the actual clock. If this procedure did not work, the trainer might have a coworker or the restaurant manager remind the worker at 2:20 p.m.

Consistent Instructions

Other skills in the routine might be much easier to train, for instance, locating the cleaning supplies. The trainer would give consistent instructions during each routine, referring to natural cues such as the "green door at the back of the kitchen" in assisting the worker to locate the supplies.

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7. Place all your personal items in the locker.

8. Take your apron from the locker and put it on.

9. Close and secure the locker.

10. Go to the lavatory; wash your hands, comb your hair, and check your clothes.

11. Go to the time clock; punch in and begin the work day.

Evaluation and Facilitation Strategies. Strategies for evaluating and facilitating success on job-related routines is similar to episodic work routines. Remember, the trainer may need to provide direct assistance to employees with severe disabilities to ensure job-related routines are performed satisfactorily.

Work Sites Differ Concerning Employee Behavior

Accommodating to the Culture of the Company. The culture of the company refers to employer expectations of the employees and the amount of flexibility allowed in the workplace. Trainers often assume that all employers have the same expectations and will allow only slight variations in their companies. However, employers differ greatly in their consideration of employee behavior. In some work settings it is acceptable for workers to sit when they have completed a certain amount of work; in others, the workers may be fired for sitting. Some employers expect workers to deal with personal differences away from work, while others tolerate occasional spats among workers. It is in this category particularly, that effective job matches are made.

Effective Job Matches

Examples: Restaurant   -   Drooling while serving customers; talking to customers while busing tables

Supermarket   -   Touching customers as they walk by in the aisle; opening and eating a box of cookies while stocking shelves

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Job-related Routines

Job-related routines involve skills and routines that are not explicitly required by the employer for the job, but are vital for successful job performance. These routines may occur either on-site or off-the-job, and are often ignored by job-site trainers. These routines will probably be performed poorly compared with core work routines. Many workers with disabilities lose their jobs when assistance is not offered to facilitate acceptable performance.

Examples: Restaurant   -   Getting ready to work; washing hands after taking out garbage

          Supermarket -   Taking the bus to work; bringing lunch to work

          Factory   -   Using the soda machine in the worker's break area; getting back from break on time

Organizational Tools. The inventory used for organizing information on job-related skills and routines is the same as for episodic work routines. The following is a sample inventory for the job-related routine in a pizza restaurant.

Inventory for Getting Ready to Work

1. Get off the bus in front of the restaurant.

2. Walk to the employees entrance.

3. Enter the door into the foyer.

4. Walk through the kitchen to the employee's lounge.

5. Locate and open your personal locker.

6. Take off your coat and other items.

Factory — Forgetting to return to work
after break; throwing parts
when angry

The importance of this category is illustrated below.

Steve is a 21-year-old man who operates a dishwasher on a supported work job in a pizza restaurant. Steve does not speak, he is described as severely disabled and he demonstrates the inappropriate behavior of screaming and hitting objects in the room at his residential setting. Steve has learned to operate the dishwasher with only minimal assistance and his trainer thinks that soon her assistance will not be needed.

A problem occurs after the noon rush is over, when the manager turns down the piped-in music (the control is over the counter next to the dishwasher). Steve likes loud music and gets disturbed when the music is turned down. Occasionally, he climbs onto the table to increase the volume of the music. This is unacceptable to the employer. Steve has not accommodated to one of the components of the culture of that restaurant, that is, music gets turned down when the lunch crowd leaves.

Observation and Discussion with Employer

Organizational Tool. Observations and discussions with the employer are the most reliable ways to organize this category. Often, the trainer will not know a behavior or lack of a behavior is a problem until it has happened. The trainers should be aware of as many cultural requirements, taboos, and acceptable behaviors as possible.

Adapting to the Culture of the Work Site

Evaluation of the Worker. The employer and, possibly, trusted coworkers are the best sources of information about whether an employee is adapting to the culture of the work site. A trainer should not assume that a worker must behave in a certain way. Frequently, trainers impose much stricter behavioral standards on workers with disabilities than on other workers. In the above example, Steve's trainer knew there was a problem when the manager came to Steve and complained after he had turned up the volume of the music.

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Facilitation Strategies. The trainer must be ready to implement any of a variety of training strategies, behavioral interventions, and environmental manipulations to ensure that the worker can meet the requirements of the employer.

In the situation described above, Steve's trainer saw several coworkers wearing Walkman-like headphones while working. She asked the manager if Steve could wear a similar portable cassette player. He said it would be fine. The trainer bought an inexpensive unit that night and showed Steve how to use it the next day. He liked the headphones and stopped complaining when the music was turned down. The trainer had succeeded in implementing an intervention and Steve was not fired.

If job site developers considered more closely this category of skills, more persons with severe disabilities could be employed. Even persons with significant excess behaviors can be matched to job settings by creative and committed job developers and trainers.

Strategies for Increasing Production and Long-term Support

Once the employee begins performing core routines without assistance (that is, reaching acquisition), the trainer should start implementing strategies to increase the productivity of the worker. Suggestions for the trainer to consider for increasing production (Callahan, et al., 1981) include:

- Be sure to provide enough time for the employee to get the feel of the job before pushing production.

- Check the work area for efficiency--location of materials, comfort, and lighting.

- Watch for major distractions. Consider having workers face a different direction, if possible, if they constantly watch others.

- Be sure to build in a smooth flow of movements during training. Some workers may be too exact or too deliberate.

- Determine what the employer requires/allows for productivity. Do not accept hearsay from coworkers.

Trainer Should ■ Closely monitor the method the worker uses, watching for
Build a Smooth inefficient and unnecessary movements.
Flow of
Movements ■ Keep workers abreast of their productivity. A line chart can be motivating when the line goes up.

- Be sure workers know they are expected to work as fast as possible.

- If possible, place the worker close to a fast worker for modeling.

- The trainer can co-produce next to the worker to model the pace and speed of work.

Goals Set in ■ If the worker can understand, set concrete goals of
Easy-to-Hard production in an easy-to-hard sequence; base quantity,
Sequence time, speed, and goals on past production.

Ongoing Support

Tough and No one really knows what long-term supports will be
Complex because the concept is so new. Job trainers will be involved
Questions in answering tough and complex questions as they facilitate
for Trainers supported employment. Other concerns pertaining to ongoing supports include:

- How long will a job coach stay at a job site with the same worker?

- Who will bear the major responsibility for providing training after a person has worked for many years at the same site? The employer or the job coach?

■ Should the job coach strive for complete fading from a job site or is it acceptable to become a necessary component of a person's job?

These questions will be answered during the next several years. In the meantime, a possible plan is that every piece of supported work intervention should result in less being needed the next time. Of course, intervention should always be available the next time it is needed. When using this strategy, job coaches and administrators will always be aware of the quality, form, and direction of ongoing supports when using this strategy. The result should be long-term employment for persons with disabilities.

ENDNOTES

[1] These training decisions require the manipulation of natural sequences and routines. They should be implemented only after careful consideration and employer approval.

[2] Get employer approval for any adaptations and significant modifications to a routine.

Chapter 7

Effective Training Techniques

Robert S. Muller

Introduction

Providing training opportunities for persons with special needs is an integral part of the responsibilities of many trainers in large corporations. Because of the special needs of this population, some specific communication techniques, adaptive training cycles, and feedback suggestions are presented.

Enhancing Communication Techniques

Most on-the-job training for individuals with physical and mental impairments is carried out by company trainers, including orienting individuals to their workplaces and acquainting individuals with their supervisors.

The first thing to consider is the instructor's prior experience with persons with special needs. Prior experience *Instructor's* in training employees with special needs can be a foundation *Experience* for successful training, but it will not guarantee success. If the trainer's prior experience has not been successful, there might be some resistance to train individuals with special needs. Clarifying a prospective trainer's attitudes toward persons with special needs is necessary in order to select an individual who will approach training in a positive way. The following are recommendations for company trainers who work with persons with special needs.

Communicating with Persons with Impaired Hearing

Jargon-free ■ Use jargon-free vocabulary. Provide a written list of new
Vocabulary   words that will be used on the job. Go over them
                    carefully with the person with special needs, anticipating
                    new words that will be used on the job.

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- Avoid pointing to an object or focusing attention on it while talking about it to a hearing impaired employee. This causes the message to be lost. The hearing impaired person's attention should be focused on the trainer's mouth.

Speak Clearly
- Stress close, face-to-face communication so that the trainer's speech can be lip read. Speak clearly and use a normal tone of voice; avoid covering your mouth with your hands. Do not talk in a dark room.

- Be sure that the hearing impaired person feels comfortable asking for something to be repeated if it is not understood the first time.

Consider Portable Telecom- municator
- Consider using a lightweight portable telecommunicator on which sentences can be typed out and displayed if the work requires repeated complex verbal instructions.

- Put precise training information in writing.

Precise, Minimal Notetaking
- Minimize notetaking during instruction. This may interfere with the trainee's ability to pay attention to the instructor.

Communicating with Persons with Impaired Speech

- Place the speech-impaired person near the trainer.

- Encourage the trainer to clarify the job tasks to be performed.

Trainer Should Be Clear
- Use mechanical or electronic aids for better communication.

- Wait for the complete sentence of the speech-impaired person. Do not try to anticipate what the person will say.

Communicating with Persons with Mental Retardation

- Avoid verbal interaction that is technical.

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Simplify and Be Precise	■ Rehearse all instructions carefully and repeat them as often as necessary. Use appropriate reinforcements for successful task completion.
	■ Use simple steps to accomplish job tasks.
	■ Break down job instructions into small steps.
	■ If more than one person is learning the job, organize learning teams.

Communicating with Persons with Impaired Vision

Use Tape Recorder, Brailler, or Hand-to-Hand Techniques	■ Encourage notetaking with things such as a tape recorder or brailler.
	■ Use hand-to-hand techniques to explain specific movements and steps of the job.
	■ Any medium used should have a complete sound track.
	■ Inform the person of the placement of equipment and resources during training to avoid hazards.
	■ Provide a hands-on exposure to objects required for the job.

Communicating with Persons with Orthopedic Impairments

Consider Notetaking	■ Consider having a coworker take notes.
	■ Supplies or materials should be stored so that they can be accessed by persons in wheelchairs.

Communicating with Persons with Learning Disabilities

	■ Provide low-key help when the job to be learned is difficult.
Positive Reinforcement	■ Provide positive reinforcement and sufficient practice to learn the task.

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■ Provide oral and written instructions.

Workers with special needs may require different and enhanced types of training programs. These individuals can accomplish all of the job tasks with proper education and training.

Adaptations Required in Job Training

The following modifications may enhance training for individuals with special needs.

Changes in Training Cycles--Lengthen the Training Period for Workers with Special Needs

A Necessary Investment in Company Work Force

Training for individuals with special needs should be regarded in the same manner as training for nondisabled workers, as a necessary investment in the company's work force to maintain the standards and production goals set by management. Also, keep in mind the contributions that individuals with special needs can make after they are trained and functioning. Restricting training to the necessary prerequisites of the job can keep the training period short and the employer's costs minimal.

Tax Incentives

Lengthening the training period for workers with special needs is an excellent investment, even if the costs are slightly higher. The cost of lengthening the training period can be offset by applying for tax credits under the Revenue Tax Act of 1978 (Public Law 95-600). This law gives tax incentives to companies that hire recipients of Supplemental Security Income payments and individuals with special needs who have received rehabilitation training prior to being hired. (This program has not begun yet but is expected to be implemented.)

Changes in the Instructional Format--Teaching Through Innovative Approaches

Several innovations in instructional format have been developed to make training of individuals with special needs more efficient.

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Experience with Equipment

■ Training for individuals with special needs should not stop in the training room; it should include experience at the work site or with equipment which will be used.

■ Trainers and supervisors with negative attitudes about persons with special needs should receive special training themselves. Negative attitudes limit career opportunities for workers with special needs.

■ Positive attitudes and good work habits should be emphasized during training and on the job.

Positive Attitudes and Work Habits

■ Suggestions from individuals with special needs about the instructional format may help identify areas where extra assistance may be needed.

■ When the instructional format is changed, consider the experiences of workers who have already demonstrated capability in other learning environments, such as rehabilitation settings.

Task Analyze the Job

■ The job should be task analyzed to identify the elements of instruction prior to teaching.

Key Issues on Training

The following issues should be considered when developing a training program for persons with special needs:

Commitment by Top Managers

■ Secure a commitment from top managers to provide an effective training program that is best suited for the company's needs.

■ Have company personnel executives present an effective training approach to top managers.

■ Prepare first-line supervisors by educating them about the capabilities of individuals with special needs.

■ Use excellent training techniques for workers with special needs.

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■ Know what training sources are available outside the company.

■ Provide training for persons with special needs only when necessary.

Positive Company Image

■ Work with key manager's to develop a positive company image that incorporates hiring persons with special needs.

■ Find the best training approach for company managers and supervisors.

Supervisory and managerial personnel are the backbone of any company. Problem solving will not begin unless these people understand that individuals with special needs can make a positive contribution to the company.

Importance of Feedback to Workers with Special Needs

Feedback to Managers

It is important that managers and personnel staff be willing to assist and counsel workers with special needs. It is equally important for employers to provide educators with feedback on the effectiveness of their training programs and to let them know how employees have progressed.

Personnel staff can obtain feedback in regular follow-up activities in the company. The feedback should be organized systematically. Top managers can use the information to evaluate and revise training techniques.

Work Habits and Inter-personal Relations of Workers

Most feedback should relate to the work habits and interpersonal skills of workers with special needs. It should show that the worker:

■ Appears neat and clean

■ Accepts correction from supervisors

■ Exercises control of emotion

■ Does not waste time

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- Shows pride in self

- Works independently and can work alone

- Comes to work prepared

- Gets along with coworkers

- Arrives promptly for work

- Can be trusted by the company

- Properly uses and cares for equipment

- Is willing to listen and accept instruction

- Gets along with employer and respects authority

- Follows directions on the job

Feedback
to Workers

Workers with special needs require good constructive feedback to become good partners to employers and to help them improve productivity and increase profits for the company. The following are important key points for ensuring the success of workers with special needs:

Selective
Placement

- When selectively placed in employment, workers with special needs make excellent, dependable, and productive employees who are interested in a job, not just a paycheck.

- Because of skyrocketing labor costs, it is good business to hire, rehire, train, and fully utilize workers with special needs.

Rehabilitation
and Business
Communities
Should Work
Together

- Advanced technology and aids have made utilizing workers with special needs much easier for employers.

- When the rehabilitation community and the business community work together, excellent and dedicated employees can be identified and employed.

- Innovative company programs have been developed by several U.S. companies to aid workers with special needs.

- Good management practices and affirmative action programs go hand-in-hand for successful companies today.

- Employers are looking for people who are willing to work. Workers with special needs are ready to work hard and to go the extra mile for employers.

- Although workers with special needs face countless barriers, the greatest barrier is the nondisabled world.

- Attitudes are changing, but continued education, training, and support are needed to remove remaining barriers.

When Should Employers Call on Rehabilitation Professionals for Assistance?

The Rehabilitation Act

The Rehabilitation Act has been a powerful source for training, counseling, and placing workers with special needs. The act offers support from major rehabilitation research centers and local agencies. Rehabilitation professionals are available to assist employers in many ways, including providing qualified workers who will profit the company.

Types of Services Provided by Rehabilitation Personnel

Employers need qualified workers, and qualified workers with special needs want jobs. Rehabilitation agencies exist to help individuals with disabilities become qualified (for example, adapt to disabilities and train for employment) and find employment. Rehabilitation agencies and businesses and industries work together to employ competent people in the right positions.

Individual Plans

Rehabilitation agencies help persons with special needs develop an individual plan. Each plan includes the following aids:

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- Placement services

- Counseling--interpersonal, vocational, and family

- Instruction in skills--social, work adjustment, and job seeking

- Special training--on-the-job, vocational, and educational

- Work-study programs

- Work site evaluation

- Medical evaluation

- Regular contact with employer or agency

- Job coaching to aid supervisors and employees

- Academic instruction

- Prosthetic aids and devices, such as artificial limbs and hearing aids

- Follow-up after placement in a job

Effective
Training at
Business
Site

It is possible for an individual to be involved with more than one agency and for physical training to be separated from job placement. Therefore, rehabilitation personnel should learn more about job requirements, and employers should learn more about individuals with special needs and what they can do. Much of the desired training can take place with the help of rehabilitation personnel, but the most effective training takes place at the business site among nondisabled personnel.

Chapter 8

Social Competence and Job Perfo:mance

Stephen Greenspan and Lois Rood

Work and the Social Milieu

Individuals with special needs require the same subsistence and self-actualization as other members of society. Therefore, it is important to suc' challenging work. Work not only provides the basic necessities of life, but it has many other meanings for most adults.

Identity

Occupations help define who we are. When we meet people socially, one of the first questions asked is, "What do you do?" Our occupation is important to us and others because it says something about who we are, what we know, what we are able to do, the associations we have, and our values.

Social
Contacts

Work is also important because it provides many of our social contacts. Although we have more labor-saving devices today than in previous years, work takes up more of our total energy. In previous years, our social contacts were with the community, church, and family. Today, the workplace often determines where we live and with whom we spend our time. Most of our affiliations depend upon the workplace.

Work
as a
Social
Value

In the United States, work is not only a way to make a living, it is a social value in and of itself. Individuals who are unemployed are seen as misfits, lazy, or self-indulgent, and they are considered as takers, rather than contributors in our society. Individuals who work hard are valued and respected, and work is often the basis from which we judge an individual's total character.

Work
and
Creativity

The workplace becomes the major outlet for an individual's creativity. Because adults spend most of their time working and because both adults in most households work, individuals expect their jobs to provide their material and

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nonmaterial needs. For many, work is a means to self-actualization as an individual. People expect challenge and creativity in their work.

Work and Choices

Independence and self-sufficiency are valued in society. Work provides most individuals with autonomy, and affects choices in other aspects of our lives, such as where we live, with whom we associate, and how we spend our leisure time. Work is also the means to social, economic, and geographic mobility.

So, work is not just a means to basic subsistence. It is a social value that is important in developing our character. It gives us an identity and a place in society. It helps us actualize our uniqueness, and it expands our choices in all areas of our lives.

Social Competence and Job Performance

Social Aspects of Employment Are Important

Thus far, strategies and techniques for locating, maintaining, and retaining jobs for individuals with special needs has been emphasized. The social aspects of employment--the ability of individuals to interact with coworkers and supervisors and to observe the social routines at work sites--will now be examined.

Does the Person "Fit In"?

When the motto "assess the individual, the job, and the match" is used, it is important to consider whether the individual will fit into the social milieu of the proposed work site. For example, a factory job on a production line requires one kind of behavior; a receptionist's job in a large office, another; and a computer operator working at home, still another. Therefore, it is important to determine the social expectations of the potential employer to decide whether the person will fit into the work site.

Individuals Need to Work with Other People

For many workers with special needs, the social elements of a job are primary considerations. Many of these people spend much of their time alone. A job may increase opportunities to socialize, and employment that does not offer this opportunity may be undesirable.

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The problem of loneliness for persons with disabilities and older workers--two groups that have long been isolated by society--must be addressed when a job match is considered. If social reinforcement is not given through employment, it may be achieved through participation in social clubs and recreation programs. If the worker's social interaction is not considered, then many persons with disabilities who have come from well-populated sheltered workshops may intentionally fail on the job in order to return to friends.

Many People with Special Needs Are Isolated and Lonely

The acquisition of social competence, usually not required of older workers, but very important to many individuals with severe mental and emotional disabilities, is examined in this chapter.

Social Skills Are Critical to Employment Success

People with Severe Impairments Have Been Segregated and Sheltered in Workshops

Vocational rehabilitation professionals are beginning to realize the need to serve groups that were not considered employable before. Traditionally, people with developmental and relatively severe disabilities, such as mental retardation or chronic mental illness, have been served in day programs or sheltered workshops. These are segregated facilities that often provide recreation, therapy, and activity, rather than meaningful employment. In the past, vocational rehabilitation agencies defined their clientele as those who could be placed in competitive employment. Therefore, many individuals, even those recently institutionalized, were not considered for vocational rehabilitation services.

A Move to Supported Employment

Deinstitutionalization and supported employment models have shown that every person, no matter how severely disabled, should have the opportunity to work in as normal a work site as possible.

Rehabilitation professionals must consider all aspects of the work situation, rather than just the physical environment, because all elements affect employees. But, these additional factors may not be as important to individuals with physical or sensory deficits, if they are basically socially competent. The social requirements of the job and the individual's ability

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to meet the requirements cannot be ignored if the individual's disability is social incompetence.

Some Persons With Special Needs Have Social Deficits

Advocates of employing persons with disabilities often emphasize the highly competitive attendance, productivity, and longevity rates of these workers to prospective employers. Typically, however, these workers only represent socially competent, highly motivated, workers with disabilities in competitive employment situations. With present prosthetic technology, the major impediment to employment for all but a handful of people with sensory or motor disabilities is their attitude toward work and their willingness to work and get along with coworkers.

Some job requirements may be beyond the capabilities of some people with significant cognitive impairments. But, the main reason persons with mental retardation cannot work is social incompetence--the inability of these individuals to meet the social demands of the workplace, the inaccurate beliefs some employers have concerning their capabilities, or both. Also, social competence becomes a factor in employability of persons with mental illness because it is obvious. (Social incompetence is the major reason that many disadvantaged persons are in the "underclass" of society, that is, people who maintain a marginal economic existence and comprise a large percentage of the country's prison population.)

Sheltered Workshops Cannot Teach Social Competence

Individuals who have spent a lot of time in segregated workshops may have learned incorrect social behaviors. For example, persons in such a setting may have learned not to get out of their seats or do anything before they were given instructions by the staff. In the work place, people need to be self-starters and to work independently.

Self-initiation Is Important

In a workshop, the emphasis is on the individual. In industry, the emphasis is on the team, work group, or production line. Teamwork can be taught in a supported employment environment, but it requires the commitment of the supervisor to model and teach the teaming skills necessary.

Team Work Is Important

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Supported employment advocates that every individual, no matter how severely disabled (socially incompetent) should be given the opportunity to work in a real work setting. This does not mean that everyone can work in competitive employment, although that is the goal. Other options, such as enclaves in industry and mobile work crews provide opportunities for workers who do not possess the social competence to succeed independently in a regular worksetting.

This chapter describes social competence, why it is important for the successful employment of people with disabilities, how social incompetence manifests itself in worksettings, and what can be done to decrease or compensate for social incompetence. However, this is a relatively new area and definite solutions have not yet been found.

Defining Social Competence

The term social competence has been used for a long time in the field of rehabilitation, but is difficult to define. It is especially difficult to define the concept broadly enough to include all aspects of social competence. Edgar Doll (1941), one of the earliest proponents of the importance of social competence, defined it to include both practical behaviors, such as dressing, feeding, and toileting and as interpersonal behaviors, such as social communication and cooperativeness. Others, such as Gunzberg (1973), focused almost entirely on practical competencies.

In this chapter, social competence is defined entirely in terms of interpersonal behaviors. While practical skills are undoubtedly an important factor for the vocational success of persons with disabilities, currently emphasis is focused on these skills and not social competence. Therefore, this chapter will focus on social competence with other people, specifically, supervisors, coworkers, and the public.

Social competence, as used in this chapter, refers to the extent a person is capable of interacting effectively with other people. People with high social competence are generally liked

and accepted, while people with low social competence are often disliked or viewed as different or deviant.

Social competence is similar to adjustment, except that adjustment implies the absence of mental illness, and there can be low social competence without mental illness. Thus, social competence is a broader concept than adjustment, because poor adjustment is only one of the ways in which social incompetence can manifest itself.

Social competence can be measured either globally (outcomes) or concretely (particular behaviors). Social competence as an outcome is the extent to which an individual is accepted by others as normal. Social competence as a behavior is the individual's actions that contribute to acceptance or rejection by others.

What Are the Results of Social Competence?

Perhaps the best indication of social competence in a job situation is whether an individual is treated as "one of the gang" by coworkers. Persons shunned by workers, for example, not invited to lunch or to participate in after-work activities, very likely exhibit behaviors that alienate other workers or that mark them as different. Conversely workers who are readily accepted and treated as persons with value, are very likely showing some degree of competence in associating with coworkers.

Another important outcome indicator is whether a person is able to keep a job. Someone who is fired frequently, especially after a short period, most likely is socially incompetent in dealings with supervisors. It is possible to be fired because of lack of physical or intellectual ability to perform a job, but more often involuntary termination is based on an individual's behavior rather than on how well the job is performed (Greenspan and Shoultz, 1981).

Therefore, someone who is marginal or even substandard in job performance may be kept in a job if others like and value the person. If a person is capable of retaining a job for a long time, it is likely that the person shows some degree of social competence.

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What Is Socially Competent Behavior?

Outcome indicators are a useful starting point in determining whether an individual is socially competent. However, it is more useful to review what individuals do, or fail to do, that causes them to be rejected or accepted by coworkers.

A useful model for grouping behavioral aspects of social competence in the workplace was developed by Greenspan (1981). This model subdivided social competence into three categories--temperament, character, and judgment. Someone who is judged socially incompetent--as determined by outcomes, such as peer rejection or involuntary termination--demonstrates incompetence in one or more of these categories of behavior.

Temperament refers to the ability to keep emotions under control. People who are explosive, who are quick to take insult, who become very agitated or upset, who are very anxious in the presence of others, who are very hyperactive and distractible, have problems in temperament. Poor temperament can contribute to a poor outcome in a job situation. However, people who are calm, who can take criticism or problems in stride, and who can focus on a task without becoming distracted, are able to cope with various aspects of most work situations.

Character is the ability to abide by social rules and regulations. People who are abusive or dishonest in their dealings with others--who steal, lie, cheat, and show little concern for others--are very unlikely to succeed or make friends in the workplace. The crucial aspects of character are acceptance of the supervisor's authority and self-discipline in attendance.

Judgment is the ability to understand how behavior is perceived by others. Persons who have problems in social judgment are likely to do things such as maintain poor hygiene, talk excessively or at the wrong time, dress or act inappropriately, exhibit excessive friendliness, and violate unwritten codes of behavior. People with developmental

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disabilities are especially likely to have problems in this area of social competence because they may often lack the cognitive abilities underlying effective social judgment and because they may have been sheltered from the kinds of social experiences that contribute to effective social interaction.

Implications for Workers with Special Needs

Social competence has obvious relevance to the employment of people with disabilities. Many experts agree that level of social competence is often the crucial factor that determines whether a person is able to overcome a disability and function effectively in the workplace.

People with serious physical or cognitive limitations can, and do, succeed as workers, both in supported and competitive settings. It is common for people with relatively severe handicaps to become completely self-sufficient, while people with relatively mild disabilities may enter into a lifetime of unemployability.

Importance of Social Competence in Affecting Job Success

This is similar to the situation facing able-bodied workers. We all know individuals without disabilities who are either frequently fired from jobs or who have never lived up to their career potential because they cannot get along with coworkers or supervisors or because they have never learned the unwritten rules that often determine success or failure in the workplace.

The importance of social competence in affecting job success or failure is the same for workers with and without disabilities. As Martin, Rusen, Lagumarcino, and Chadsey-Rusch (in press) recently found, social incompetence is a major factor contributing to job loss for workers with and without disabilities. Typically, workers without disabilities possess minimal social competence to succeed in competitive employment. Workers with special needs, especially workers with developmental disabilities, have a higher than average likelihood of being socially incompetent, and, therefore, have a higher than average risk of not succeeding in a job.

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Sometimes, people with disabilities are subjected to stricter standards than are people without disabilities (Gold, 1973). Frequently people are willing to make allowances for unusual behavior in people who are considered generally competent, while they are quick to use similar behavior in persons with disabilities as confirmation that they are generally incompetent and should not be given opportunities to interact with people without disabilities. Because of this competence-deviance phenomenon, it is more important for people with disabilities to acquire work-related social skills than it is for people without disabilities. Finally, employers often are willing to give extra help to employees without disabilities who have demonstrated problems in the area of social competence. Currently, this is reflected in many employee assistance and disadvantaged worker programs. It is not unreasonable to expect similar help for persons who are less able to find help for themselves and for whom such help may be a crucial determinant of employability.

Reasons for Social Incompetence

Persons with disabilities can be socially incompetent for many reasons, including deficits in temperament, character, or social judgment or some combination of the three, depending on their disabilities, their life experiences, and their innate personalities.

Problems of excessive impulsiveness and emotionality may result from disabilities or they may arise as secondary reactions to disabilities. Often the two are found in combination. For example, Robert suffered a traumatic brain injury as the result of a motorcycle accident when he was 25 years old. Before the accident, Robert was a fairly well-adjusted individual. Now, he responds with very strong, and often inappropriate, emotions--both positive and negative--to everything that happens to him. His tendency to take extreme offense at anything that he considers demeaning or at negative comments about his accident-related deficits is especially troubling. Robert has lost several jobs within hours after being hired for tirades directed against his supervisors.

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**Defensiveness
and Low
Self-esteem
Add to
Temperament
Problems**

In most cases, it is difficult to know how much of the obvious temperamental problem is due to the disability and how much is due to defensiveness and low self-esteem, which are logical consequences of the disabilities. It is well-established in the medical and psychological world that people with neurological damage, even relatively mild, tend to have problems of impulse control, attention deficit, and emotional instability. This is particularly true of people with traumatic brain injury.

Robert continues to experience unresolved grief over the loss of cognitive prowess (previously he was well-above average intellectually, now, he has notable short-term memory deficits and functions in the normal to dull-normal range intellectually).

**Ability to
Concentrate
a Factor in
Temperament**

Another aspect of temperament involves the ability to concentrate. Many people with disabilities, particularly those with neurological problems, have attention deficits that limit their ability to function effectively in job settings. For example, Alan, a man in his thirties who has autism, has been extremely hyperactive all of his life. Despite being on psychotropic medications, Alan has extreme difficulty in paying attention to others and in following directions. His hyperactivity is a serious obstacle to successful employment.

**Character
Problems**

Successful employment requires abiding by rules and regulations, those of the work site and society. Even more important is the willingness to delay immediate gratification to pursue long-range goals. Translated into specific behaviors, this means dealing with occasional frustrations without giving up; going to work every day even when you do not feel like it; making a good effort on the job; and taking directions, including criticism, from supervisors.

In general, people with disabilities compare favorably with people without disabilities in the area of character. However, many persons with disabilities have character problems and these problems pose a major impediment to employment.

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Bill is a man in his forties with mild mental retardation and epilepsy; he also has a psychiatric disorder. Bill has a very violent temper and has been arrested for physically assaulting people and stealing. He was fired from his last job as a dishwasher for uncooperativeness and for disappearing for long periods of time. Bill's character problem is primarily a reflection of his disability.

For Phyllis, character problems were more likely a secondary reflection of the treatment she received. Although visually impaired, Phyllis was fully capable of working. However, she grew up in a home where she was pampered and received no consistent limits, because of her parents' pervasive pity for her and their desire to make her life as pleasant as possible. Consequently, Phyllis never developed a desire to work and acted as if it were a great imposition to expect her to do so. She lacked motivation to work and her attendance was so spotty that she was terminated from several jobs.

Judgment
Problems
Inadequate social judgment is a common problem among people with disabilities. In fact, it may be the area in which they are most deficient, relative to the general population. As with temperament and character, poor social judgment may be a primary reflection of the disorder, specifically, cognitive or emotional limitations that make the individual relatively unaware of the perspectives or feelings of others. Or, it may be a secondary result of the environment, specifically the lack of normal socializing experiences for the individual with disabilities.

Deficits in social judgment are more likely to show up in immature or dumb behaviors than in mad (temperament) or bad (character) behaviors. As stated before, there is a difference between good mental health and social competence.

Gary, a man with Down's syndrome, is in his forties. Gary has a winning personality, is very friendly and cooperative, has good self-help skills, has held the same job for years, and lives in his own apartment. He is, by all accounts, a very popular person with no significant adjustment

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problems. Yet, Gary (who has mild mental retardation) has obvious areas of social incompetence, which are exhibited as a failure to be adequately attuned to what others are thinking or feeling.

At a farewell party for Janet, a coworker without disab' ties, Gary was a member of a group that was talking about how much they were going to miss her. Gary said, "I've been wanting to have sex with Janet for a long time." The people in the group, which included Janet's mother, were clearly embarrassed, but Gary, unaware of their uneasiness or the reason for it, continued with, "Yes, I'd really like to go to bed with her."

Trudy is mildly/moderately mentally retarded and works as a chambermaid in an enclave at a large hotel. She is another example of someone who displays poor social judgment in a work situation. Trudy was so intent on meeting her daily quota of rooms to clean that as soon as she entered a room, she would run into it, practically knocking over any guests who might still be there. One day, a guest was still sleeping in a room when Trudy wanted to clean. She became frustrated, banged on the door, and insisted that the guest let her in.

Both of these people were highly motivated to succeed in a work situation, and were basically well-adjusted, that is, they did not have serious problems of temperament or character. The problem, however, (more serious in the case of Trudy because it could have alienated a customer), was their inability to coordinate a positive intent (to make complimentary small talk in the case of Gary, to do her job in the case of Trudy) with another, more overriding aspect of the situation. This was shown in the inappropriateness of making a particular comment in the case of Gary, and the inappropriateness of insisting to a customer in the case of Trudy. In Gary's case, the initial blunder was compounded by his failure to pick up or interpret the subtle but obvious non-verbal cues of disapproval given by his audience.

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Many other socially inept behaviors, that is, behaviors that are traceable to poor social judgment, are exhibited by some persons with disabilities in workplaces and sometimes have serious consequences for the workers. A common problem is excessive or inappropriate efforts to make friends with coworkers.

Ron, a man with chronic mental illness, worked as a photocopy machine operator in an office. Ron liked to talk with coworkers about what he had seen on television the night before. However, he was unable to discriminate between situations to determine when such behavior was appropriate (around the coffee machine) and when it was inappropriate (next to someone's desk). He was fired after he entered a room where a meeting was taking place and interrupted to talk about an upcoming football game.

Sometimes it is difficult to know whether to attribute an inappropriate behavior to poor social judgment (not knowing what is appropriate) or to character (not caring) or temperament (being so anxious that it does not matter). Often, more than one factor is involved. For example, Trudy probably lacked the social judgment to know the inappropriateness of her actions. But, another probable consideration was her extreme anxiety about not making her quota, and this temperamental factor undoubtedly contributed to her outburst.

Poor grooming is another behavior problem for some persons with developmental or other severe disabilities. It is not uncommon for some individuals to wear the same dirty clothes for days at a time, to not shower, or to not use deodorant. It is possible that such behaviors reflect character deficits, that is, the individuals just do not care what other people think. Many times, however, such behaviors are a reflection of social judgment deficits. It is important to remember that grooming, while serving a health function, (for example, warding off bacteria), more often than not serves a social function (making ourselves acceptable or attractive to others). Motivation to take a shower or get a haircut requires imagining how other people feel about us. While there are

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limits to which many people without disabilities will go in meeting official or unofficial dress or appearance codes, most people understand the minimum, often unstated, requirements of a work site, and realize the possible negative consequences of not meeting these standards.

Why do people with disabilities often have problems in social judgment? As with temperament and character, there are two likely reasons--one a primary reflection of a person's disability, the other a secondary reflection of the individual's experience. It is important to remember that social judgment relies on many of the same cognitive and perceptual processes as general intelligence. To take another person's perspective, to think about possible consequences of actions, to arrive at the best solution to an interpersonal difficulty, to be aware of the meaning of a social gathering or a subtle non-verbal cue given by another, all require thinking ability that may be lacking in individuals with neurological damage or some degree of general or specific intellectual impairment. For this reason, many individuals with disabilities, especially those who are intellectually disabled, are likely to have some deficits in social judgment.

Also, environmental factors contribute to deficits in social judgment. Specifically, persons with disabilities often have limited opportunities for interaction with peers without disabilities, for a variety of reasons, including placement in segregated schools or classes with other children and adolescents with disabilities, parental overprotection, and rejection by peers. Considerable research evidence suggests that experience interacting with peers is essential for acquiring mature social skills. Peers provide behavior models, opportunities to try out social behaviors, and feedback when social behaviors are inappropriate. Because persons with disabilities have fewer opportunities, both as children and adults, to interact with many peers, it is natural that often their social skills are not fully developed. Thus, regardless of personal factors, such as cognitive or neurological limitations, the social incompetence of some individuals with disabilities may also be attributed to the experience, or lack of experience, that they have had with peers at school, in the neighborhood, and at the workplace.

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Practical Implications for Employment

The practical implications of the framework outlined in the previous sections will be discussed throughout the remainder of this chapter. Methods for increasing social competence through training and environment will be explained. Questions of placement and assessment are also included.

The study of social competence is relatively new in special education and rehabilitation. Knowledge of what social competence is, how to measure it, and how to encourage its development is minimal. Much of the information will be anecdotal, in order to stimulate awareness of the importance of social competence, rather than to provide definitive answers of how to help persons with disabilities function in a fully socially competent manner.

There are few adequate measures available for assessing social competencies relevant to successful employment. While some promising measures are being developed, adequate validity data are not available. Possible assessment strategies and informal assessment measures, rather than specific vocational measures, will be emphasized.

The starting point for assessing social competence should always be to look at outcome aspects of social competence. This can be done formally, through sociometric methods, or informally. Sociometric methods should not be used for an individual but for a group of individuals. Typically, members of a group, a class, for example, are asked to nominate three people they like and three they dislike. The number of positive and negative nominations are indications of positive and negative status. A problem with this approach, however, is that the status of individuals who get few nominations is unknown. This approach is, however, often useful as a screening method to determine who seems to be especially unpopular.

A preferred technique for conducting a formal sociometric study is to ask each member of the group to rate every other member on one or more four-point rating scales. For

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example, asking the rater to choose one of the following statements: "I like this person a lot" (four points), "I like this person" (three points), "I dislike this person" (two points), "I dislike this person a lot" (one point). (For those with significant intellectual impairments, it may be preferable to use stars or happy faces.) Each person in the group receives a score, ranging from a high of four times the number of raters to a low of one times the number of raters. If more items are used, the total score is the sum of the scores received.

If the focus of the study is to get a score on an individual or a few individuals, it is important from an ethical and procedural standpoint that the respondents do not know the true target of the sociometric study.

Interviews and Questions

Informal information about social competence outcomes can be gathered by interviewing informants--staff, peers, parents. They can be concerned with things, such as whether the individual has friends, whether the individual has been able to hold other jobs, and whether the person is liked or disliked by peers without disabilities. Such information often provides extremely useful information about the level of social competence exhibited by a person with disabilities, although it is less systematic.

Behavioral Indicators

From a programmatic standpoint, the most useful information concerns specific behavioral components of social competence. Information about an individual's temperament, character, and social judgment can provide insights about the type of worksetting an individual is prepared for and the type of intervention needed to make success more likely in the workplace. In the absence of formal measures, it may be enough to ask significant others (staff, teachers, and parents) to describe how the individual manages different kinds of work-related situations.

To assess an individual's temperament, the following points should be considered. Can the individual cope with stress and adapt to changes in routine? Does the individual become angry or upset when frustrated? Can the individual get

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over past difficulties or does the person remain fixated on them? Does the individual act impulsively, sit quietly, finish tasks, or exhibit self-abusive or stereotypic behavior, such as twiddling?

To assess an individual's character, consider whether a person shows respect for the property of others, directs violence toward others, works hard or loafs, shows good attendance, accepts criticism or feedback from others, is friendly to others, cooperates with others, helps others when they need it, and abides by rules and regulations.

In appraising social judgment, it may be advisable to find out whether the individual has good hygiene and personal habits; dresses in an acceptable manner; adopts bizarre postures or facial expressions; talks to one's self in public; seems aware of other people and their perceptions of the individual; is excessively friendly or talkative; can deal with basic social situations, such as being introduced to someone; can engage effectively in humorous interactions; appears to understand how to be in good esteem with others; and exhibits behavior that inadvertently offends others.

Frequency Counts

An assessment strategy that probably is the most relevant for measuring character-related social competencies (because these are the most observable), is using frequency counts gathered through direct observation. The most elaborate use of this technique would be to use a clipboard and follow an individual for several days, and, about every 60 seconds, check the frequency of twenty or so target behaviors, positive and negative.

A more economical and natural approach is to target a smaller number of critical behaviors. One strategy for measurement is to observe the individual intensely for 5-10 minutes every hour, for 1-2 days. An alternative, and easier, although no less valid, approach is to focus on one or two target behaviors and note the frequency of their occurrence. This approach can be the one most easily integrated into regular staff supervision and training, and can be continued on a long-term basis. Data gathered are usually charted on a

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graph, with time (usually days) on the x-axis and the number of occurrences of the target behavior on the y-axis. Such data provide useful baseline information for indicating the extent of a problem and later provide a very objective basis for evaluating the success of an intervention.

Assess the Individual and the Setting

The assessment of settings and the social competencies needed to function adequately within them, are as important as the assessment of the individual. Successful employment for persons with disabilities is a function of the individual, the work site, and the interaction between them. Greater attention should be given to analyzing the social competence requirements as well as the intellectual and physical requirements of each job.

Placement Issues

What Setting Suits the Individual?

Because there may be limits on the extent to which social competence can be increased for an individual with disabilities, it may be possible to maximize chances for successful employment by placing the individual in a setting that is best suited to the individual's level of social competence. This is true for placement within supported employment and competitive employment settings.

Variety of Placement Options

Supported employment offers four general types of placement options: (1) supported placement in competitive employment; (2) work stations located in regular businesses; (3) mobile work crews; and (4) affirmative businesses, in which most of the employees have special needs. Although the issue has not been examined, it is possible that these options could be ranked according to the type or level of social competence required. It is important, however, to be aware of the nature of the business and the particular role that an individual plays within it.

Level of Social Integration Varies with Employer, Not with Type of Option

The options listed above are ranked in order of degree of integration into regular workplaces. It might be assumed, therefore, that supported competitive placement, followed by work stations, mobile work crews, and affirmative businesses may require the most social competence. While this

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generalization, which is presently unsupported by data, probably has some merit, the requirements of each setting and job must be examined. Thus, there are work stations where workers with disabilities are isolated from workers without disabilities, and the workers with disabilities function as if they were in a sheltered workshop. People with very limited social competence can be accommodated in such a work station.

Contact with
Coworkers
Varies

Although mobile work crews exist in the community, they typically involve functions, such as lawn maintenance, in which the workers have little or no contact with the public. The supervisors are responsible for most contact with the public. Affirmative businesses, although the least integrated in a formal sense, often require considerable contact between the worker and the public, as in the operation of a store or restaurant. Also, affirmative businesses usually involve some degree of reverse mainstreaming, in which a percentage of workers (as many as 40 percent) do not have disabilities. This arrangement creates considerable integration.

Contact
with the
Public
Varies

The best arrangement probably is placing people who show a mix of social competence levels, corresponding to the various roles which need to be filled, within a work site. In an affirmative business, for example, some workers may be out in the front selling or dealing with the public, while others are performing jobs which require less initiative or judgment. It is also beneficial from a modeling standpoint to have a mix of social competencies, so the less socially competent workers may learn from their more socially competent peers. Therefore, it is not advised to place workers in various employment options solely on the basis of their social competence levels.

Careful
Placement
Is Needed

Competitive employment, whether part of a supported employment option in which there is on-site special staff supervision or in its more natural manifestation, also offers people of various levels of social competence the opportunity to function. Thus, while competitive employment typically requires the highest level of social competence, people with

The Right
Job Match
Makes the
Difference

significant social competence deficits can often succeed if the right match has been made between the job and the person.

Dimensions of Social Competence

Competitive employment settings vary for individuals with disabilities. They include opportunities to interact with workers without disabilities and the public in structured and unstructured settings, to interact in situations where deviant or different behavior is tolerated, and to interact in organizations that provide supportive services to workers needing special assistance.

The nature of the work site and its requirements can be critical for the successful placement of persons with disabilities. Usually, workers with disabilities who have social competence limitations do better in workplaces where social interaction skills are not a critical requirement for job success. They also do better where social interactions, when they occur, are in highly structured contexts and where roles are clearly defined. For this reason, jobs such as food service, factory assembly, horticulture, and maintenance work are frequently utilized for persons with disabilities who are deficient in social competence. Such jobs rely less on social skills and often attract employees who do not show high levels of interpersonal competence.

Tolerance and Commitment Vary with Employers

However, many persons with special needs are suited for other, more mainstream workplaces. Many of these individuals are socially competent and work in all kinds of settings. Also, some organizations are more willing, either because of the nature of their businesses, or because of the commitment of their leaders, to tolerate employees whose behaviors do not conform to narrow corporate stereotypes.

The major thrust of this module is to help workers with special needs accommodate to the requirements of worksettings, either by acquiring social competencies or by seeking employment in settings better suited to their social competence profiles. Hopefully, employers will eventually become more tolerant of some degree of social incompetence among workers with special needs.

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As more workers with disabilities and mental illness enter the workplace, it is necessary to consider that many individuals may never achieve the level of social competence that is typically expected of people who work in competitive employment. If employment in competitive settings is to become an option for individuals with severe disabilities, it will become necessary for many employers to broaden their definition of the types of behavior they are willing to tolerate. While it may not be reasonable to expect this for extremely deviant or disturbed behaviors, it is not unreasonable to expect that employers would tolerate harmless manifestations of poor social judgment, especially when the individuals are otherwise good employees.

Training Issues

Possible
Teaching
Strategies

There are few curricula or training packages that address vocationally relevant social behaviors, and those that do tend to be aimed at practical behaviors, such as reading signs, rather than interpersonal behaviors. Therefore, as with assessment issues, the examination of training issues will concentrate on general training strategies, rather than specific curricula, and it is organized according to the three aspects of social competence identified earlier--temperament, character, and social judgment. Most of the information will focus on judgment because it is the part of social competence most suited to a formal training program.

Temperament-
oriented
Training

Cognitive behavior modification is a technique that has been somewhat successful in helping individuals overcome problems of temperament. Such techniques provide tools for acquiring self-control over the inclination to get angry, upset, or depressed. Work by Meichenbaum, Ellis, Novaco, and others, while aimed at a general audience, has implications for individuals with disabilities.

Cognitive behavior modification provides the individual with insight into self-defeating patterns of emotional response, provides some simple relaxation or distraction techniques, and provides frequent opportunities, such as homework

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assignments, to practice the techniques. Cognitive behavior modification can be used both in individual and group sessions.

Traditional psychotherapy or mental health counseling is another intervention approach that can be used to addi ess temperament deficits, although this approach is less likely to be beneficial to individuals who have significant cognitive impairments. Psychotropic medications, while they should be used sparingly, have a definite role in helping individuals achieve better work adjustment, where maladjustment is the result of biologically based temperament problems.

*Character-
oriented
Training*

Because of the difficult nature of the problem, character-oriented interventions have typically involved reward-punishment models to persuade individuals to see the advantages of good behavior, rather than to address values directly. Such interventions are categorized as behavior modification or applied behavior analysis, although there are wide variations in the techniques advocated. One major difference is the degree of mild punishment considered acceptable to diminish seriously maladaptive behaviors. All serious behaviorists emphasize the use of positive reinforcement techniques for differentially reinforcing desired behaviors (relying on the lack of reinforcement to extinguish undesirable behaviors). However, some accept aversive techniques, including relatively mild forms such as overcorrection or time out, to deal with more serious negative behavior. The authors think that punishment is used too frequently and should be avoided whenever possible, especially in vocational training and supported employment settings. The following information, therefore, stresses only positive contingencies.

*Behavioral
Intervention*

The starting point for any behavioral intervention is to gather baseline data, using approaches similar to those described in the section on assessment. Then, there is an objective basis for evaluating the effectiveness of whatever intervention is used. A charting of target behaviors must, therefore, be continued during the course of the intervention and for some time after.

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The most natural intervention, and in some ways the most powerful, although the slowest, is to influence the development of positive character in individuals with disabilities through the daily responses of significant adults to the individual's behavior. The response to desired behaviors should be verbal praise, smiles, warmth, pats, or other forms of social reinforcement. Initially, these behaviors should be reinforced whenever they occur, although after awhile, they can be reinforced intermittently.

Material reinforcers may be used also, although they are somewhat less natural than social reinforcement. Praise from supervisors is, after all, a very desired commodity for all workers, no matter what their level of competence.

Token economy is the use of material reinforcers, when the initial reinforcement is a symbol, such as check marks, points, or happy faces, and it is later exchanged for the real item. Typically, the individual carries around a book or card where the number of symbols earned during a particular period of time, usually a day, are entered. The individual is eligible to trade these symbols for some desired reward, at an agreed-upon rate of exchange.

Judgment-oriented Training

Because social judgment, also referred to as social awareness, social cognition, social intelligence, and social skill, is a relatively new area of study, formal training approaches are just beginning to be developed. The authors think, however, that this is the most promising area for intervention. Significant changes in behavior can occur as the result of insights gained through such training, and training approaches can be especially well-tailored to the cognitive underpinnings of social behavior. A variety of approaches that have been developed in experimental form are summarized below.

One way in which social judgment can be taught is through formal classroom curricula. One curriculum, developed for use with disadvantaged youth, but easily adapted for use with persons with disabilities, is the SAVY Curriculum, developed by Brown and Greenspan (1984). This

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curriculum focuses on social foresight, the ability to anticipate the interpersonal consequences of one's behavior.

A variety of exercises are used to give class members an increased understanding of how their behaviors will bring about either positive or negative responses from cthers. For example, in one exercise it is suggested that students practice being assertive, using two different sets of vocal intonation and body language--one to make the other person angry and defensive, another to make the other person more receptive to any communication. (Although the SAVY Curriculum does not focus exclusively on assertiveness, assertiveness training is a widely used method for teaching social skills to a variety of individuals.)

Perhaps the most useful approach to training social judgment is a social problem-solving exercise. The individual is presented with hypothetical work situations and asked to generate or select alternative courses of action, including desirable and undesirable alternatives. Situations and alternatives can be placed on flash cards. Also, board games are being developed to teach good social problem-solving skills.

Role-playing techniques, also useful in dealing with temperament and character issues, are another powerful method for training good social judgment. Individuals are allowed to act out more adaptive ways of dealing with certain problematic situations. Role-playing is often quite effective in explaining principles, such as the importance of being friendly. Also, role-playing is used to practice principles before they are used in the workplace, and it can involve an individual or a group.

Support groups are often useful in dealing with social judgment issues. A job club, for example, might be an appropriate setting to discuss the importance of using good social judgment. Usually, job clubs emphasize behaviors, such as interview skills, needed to get a job, but not much attention is given to retaining a job. While exercising good social judgment to obtain a job is important, it is even more

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important, and difficult, to retain the job. For many individuals with disabilities, it requires continuing effort and support. Job-oriented support groups are often a very effective and nonthreatening way of providing this assistance.

Other Environmental Interventions

Training is the environmental intervention that receives the most attention, however, other interventions may be more effective ways of increasing the social competence of individuals with disabilities. The provision of corrective feedback by supervisors and the use of coworkers as mentors are probably the most important factors involved.

Supervisor Feedback

Employers who agree to hire persons with disabilities are usually very well-intentioned people who have a great deal of sympathy for the people they are hiring. They are sensitive to the feelings of inadequacy that people with disabilities often experience, and they are reluctant to contribute to those feelings of inadequacy by giving critical feedback.

The reluctance to do anything that embarrasses or upsets an employee with disabilities may be compared to the over-protectiveness that allows the parents of children with disabilities to avoid setting limits for these children. The result is the same in both cases. The individuals with disabilities are denied the opportunity to learn how their behavior is affecting others and to acquire the skills needed to function effectively in society.

Some employers' may be reluctant to give corrective feedback to employees with special needs because they may be embarrassed to talk about the problem. Typically, employers are experienced in dealing with character problems, such as poor attendance and dishonest behavior, however, they have little experience dealing with problems of temperament, such as highly emotional or impulsive behaviors, and even less experience in dealing with problems of poor social judgment, such as inept and socially inappropriate behaviors.

Supervisors usually do not comment on matters of etiquette or on the subtle ways workers can make co-workers uncomfortable or antagonistic. Therefore, when

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supervisors encounter a worker with special needs who behaves ineptly or inappropriately, except in extreme cases that are usually character related, they usually say and do nothing. This approach denies the worker the opportunity to learn from mistakes, and the supervisor often builds up resentment that is later expressed by terminating the employee. We think that it is in the larger interest of people with special needs to be informed when they are violating the unwritten rules of the workplace. When possible, supervisors should provide this information.

Coworker Feedback

A more effective approach might be for the worker to be corrected by a coworker. An approach that is beginning to come into widespread use is for a worker with special needs to be assigned a mentor, paid or volunteer. The mentor is typically a worker without disabilities with several years of experience at the work site. The mentor provides the worker with feedback on the specific job, and more importantly teaches the worker with special needs how to behave in ways that are acceptable to coworkers. In addition to teaching the worker how to become more socially competent, the mentor can also sponsor the worker in informal social activities outside of work.

While formal mentor programs can be very useful in helping workers with special needs to acquire social competencies important to job success, informal relations between coworkers can be even more critical. For example, Ralph was not successful in a setting where coworkers did not tell him about his excessive talkativeness. However, he has done quite well in another setting where coworkers are willing to tell him to be quiet. It is important for supervisors to prepare coworkers to be open and constructive in their feedback to workers with disabilities who exhibit socially incompetent behaviors.

Conclusions

We think that people with special needs are capable of increasing their levels of social competence when they are exposed to formal learning opportunities. This is true especially for individuals with disabilities whose social competence deficits are, in part, the result of limited

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exposure to peer models who do not have disabilities, and lack of feedback. In fact, all people with special needs can benefit from social competence training opportunities, although the progress of some individuals is limited.

As with other individuals, many people with special needs will acquire increased social competence with age and experience. Just as people without disabilities have irregular job histories when they are young and then settle into stable careers as they mature, many individuals with special needs may seem unemployable at first but then find the right position.

It is important, therefore, to give individuals with disabilities more than one chance to demonstrate whether they can function in a competitive employment situation. At the same time they must receive as much help as possible in acquiring the social skills they need to succeed.

Workshops and other traditional employment settings do not and cannot provide adequate opportunities and models for individuals with special needs to acquire normal social behavior. Continued reliance on workshops unwittingly prevents the acquisition of social skills needed for job success. As more severely disabled individuals enter mainstream employment settings, considerable effort involving cooperation between human service agencies and employers will be needed to help these individuals learn to manage the important, but often unstated, social requirements of the work world.

References

Alper, S. "Utilizing Community Jobs in Developing Vocational Curriculum for Severely Handicapped Youth." *Education and Training of the Mentally Retarded*, 16(1981):217-21.

American National Standards Institute, Inc. *Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People*. New York, NY: 1980.

Bellamy, G., L. Rhodes, and J. M. Albin. "Supported Employment." *Pathways to Employment for Developmentally Disabled Adults*, W. Kiernan and J. Start (Eds.). Baltimore: Paul Brookes, 1985.

Bellamy, G., L. Rhodes, P. Bourbeau, and D. Mank. "Mental Retardation Services in Sheltered Workshops and Day Activity Programs: Consumer Outcomes and Policy Alternatives." *Appraisal of Work Opportunities and Related Services for Adults with Retardation*, W. Williams and G. Bellamy (Eds.). Washington, DC: President's Commission on Mental Retardation. (In press).

Bellamy, G., L. Rhodes, B. Wilcox, J. Albin, D. Mank, S. Boles, R. Horner, M. Collins, and J. Turner. "Quality and Equality in Employment Services for Adults with Severe Disabilities." *The Journal of the Association for Persons with Severe Handicaps* 9(1984):270-77.

Bellamy, G., J. Sowers, and P. Bourbeau. "Work and Work-related Services: Postschool Options." *Systematic Instruction of the Moderately and Severely Handicapped*, M. Snell (Ed.). Columbus: Charles Merrill, 1983.

Berkeley Planning Associates. "Study of Accommodations Provided by Federal Contractors: Final Report." Vol. 1, *Study Findings*; Vol. 2, *Ten Case Studies*. Prepared for the U.S. Department of Labor, Employment Standards Administration, Berkeley, CA: 1982.

Berkeley Planning Associates. *Development of Performance Measures for Supported Employment Programs*. Report to the U.S. Department of Education, Office of Special Education and Rehabilitation Services, Berkeley, CA: 1985.

Boles, S. M., G. Bellamy, R. H. Horner, and D. M. Mank. "Specialized Training Program: The Structured Employment Model." *Human Services That Work: From Innovation to Standard Practice*, S. C. Paine, G. Bellamy, and B. Wilcox (Eds.). Baltimore: Paul Brookes, 1984, p. 181-208.

Bowe, F., and J. Rochlin. *The Business Rehabilitation Partnership*. Hot Springs, AR: Arkansas Rehabilitation Research and Training Center, 1983.

Bragman, R., and J. C. Cole. *Job-Match: A Process for Interviewing and Hiring Qualified Handicapped Persons*. Alexandria, VA: American Society for Personnel Administration, 1985.

Brickey, M., and K. Campbell. "Fast Food Employment for Moderately and Mildly Retarded Adults." *Mental Retardation* 19(1981):113-116.

Brown, G. M., and S. Greenspan. "Effect of Social Foresight Training on Interpersonal Adjustment of Pre-Delinquent Youth." *Child Study Journal* 14(1984):61-77.

Brown, L., J. Nietupski, and S. Hamre-Nietupski. "The Criterion of Ultimate Functioning." *Hey, Don't Forget About Me: Education's Investment in the Severely, Profoundly and Multiply Handicapped*, M. A. Thomas (Ed.). Reston, VA: The Council for Exceptional Children, 1976, p. 2-15.

Brown, L., B. Shiraga, A. Ford, J. Nisbet, P. VanDeventer, M. Sweet, J. York, and R. Loomis. "Teaching Severely Handicapped Students to Perform Meaningful Work in Nonsheltered Vocational Environments." *Educational Programs for Severely Handicapped Students, Vol. XIII*, L. Brown, A. Ford, J. Nisbet, M. Sweet, B. Shiraga, J. York, R. Loomis, and P. VanDeventer (Eds.). Madison, WI: Madison Metropolitan School District, (1983), p. 1-100.

Brown, L., B. Shiraga, J. York, K. Kessler, B. Strohm, P. Rogan, M. Sweet, K. Zanella, P. VanDeventer, and R. Loomis. "Integrated Work Opportunities for Adults with Severe Handicaps: The Extended Training Option." *The Journal of the Association for Persons with Severe Handicaps* 9(1984):262-69.

Callahan, M., P. Balicki, E. Guardanapo, H. McBride, C. Pelmonter, and K. Rutherford. *The Mississippi Project: The Process of Employing*. Syracuse, NY: Marc Gold and Associates, 1981.

Callahan, M., and J. Nisbet. *Supported Employment: Issues and Approaches*. (In preparation).

Cary, J. R. *How to Create Interiors for the Disabled*. New York, NY: Random House, Inc., 1978.

Chadsey-Rusch, J. "Identifying and Teaching Valued Social Behaviors in Competitive Employment Settings." *Competitive Employment: Issues and Strategies*, F. R. Rusch (Ed.). Baltimore: Paul H. Brookes, 1985.

Chaplupsky, A., and T. Kopf. *Job Performance Aids and Their Impact on Manpower Utilization*. Palo Alto, CA: Philco-Ford Corporation, 1967.

Congress of the United States, 2nd Session, *Title I--Amendments to the Rehabilitation Act of 1973*. Washington, DC, January 19, 1978.

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14ᴜ

Coomer, J. W. "Six Steps of Problem Solving for Work Supervisors." *SVRA National Reporter*. University of Wisconsin-Stout: Stout Vocational Rehabilitation Institute, School of Education and Human Services, Fall/Winter Issue 1979-80) p. 1.

Coudroglou, A., and D. L. Poole. *Disability, Work, and Social Policy: Models for Social Welfare*. New York: Springer Publishing Co., 1984.

DeGraff, A. H. "Access to College Campuses: AHSSPPE." *Rehabilitation Gazette* 26(1985):36-38.

Deutsch, P. M., and H. W. Sawyer. *Guide to Rehabilitation*. New York: Mathew Bender, 1985.

Diffrient, N., A. Tilley, and J. Bardagjy. *Humanscale 1/2/3*. Cambridge, MA: Massachusetts Institute of Technology Press, 1974.

Doll, E. A. "The Essentials of an Inclusive Concept of Mental Deficiency." *American Journal of Mental Deficiency* 46(1941):214-15.

Elder, J. "Job Opportunities for Developmentally Disabled People." *American Rehabilitation* 10(1984):26-27.

Faste, R. A. "New System Propels Design for the Handicapped." *Industrial Design*. July/August, 1977.

Federal Register. Developmental Disabilities Act of 1984. Report 98-1074, Section 102 (11) (F), Washington, DC, September 25, 1984.

Fera, D. M. (Ed.). *Handicapped Requirements Handbook*. Washington, DC: Federal Programs Advisory Service, 1984.

Ford, A., and P. Mirenda. "Community Instruction: A Natural Cues and Corrections Decision Model." *The Journal of the Association for Persons with Severe Handicaps* 9(1984):79-88.

Frith, G. H., and S. Armstrong. "Career Preparation for Behavior Disordered Adolescents: Involving the Family." *Family Relations* 33(1984):143-47.

Foss, G., M. D. Bullis, and D. A. Vilhauer. "Assessment and Training of Job-Related Social Competence for Mentally Retarded Adolescents and Adults." *Functional Assessment in Rehabilitation*, A. Halpern and M. Fuhrer (Eds.). Baltimore: Paul H. Brookes, 1984.

Garfield, Charles. *Peak Performances*. New York, NY: Warner Books, Inc., 1985.

Garner, J. B., S. Zider, and N. Rhoades. *Training and Employment for Persons Labeled Mentally Retarded: A Project with Industry*. Syracuse, NY: Marc Gold and Associates, 1985.

141

Gaylord-Ross, R., K. Stremel-Campbell, and K. Storey." Social Skill Training in Natural Contexts." *Education of Learners With Severe Handicaps: Exemplary Service Strategies*, R. H. Horner, L. Meyer, and H. D. Fredericks (Eds.). Baltimore: Paul H. Brookes, 1985.

Gold, M. W. "Research on the Vocational Habilitation of the Retarded: The Present, the Future." *International Review of Research in Mental Retardation*, Vol. 6, N. R. Ellis (Ed.). New York: Academic Press, 1973.

Gold, M. *Did I Say That?: Articles and Commentary on the Try Another Way System.* Champaign, IL: Research Press Co., 1980a, p. 64-6b.

Gold, M. *Try Another Way Training Manual.* Champaign, IL: Research Press, 1980b.

Greenleigh Associates, Inc. *The Role of the Sheltered Workshop in the Rehabilitation of the Severely Handicapped.* New York: Report to the U.S. Department of Health, Education and Welfare, Rehabilitation Services Administration, 1975.

Greenspan, S. "Social Competence and Handicapped Individuals: Practical Implications of a Proposed Model." *Advances in Special Education*, Vol. 3, B. K. Keogh (Ed.). Greenwich, CT: Jai Press, 1981.

Greenspan, S., and B. Shoultz. "Why Mentally Retarded Adults Lose Their Jobs: Social Competence as a Factor in Work Adjustment." *Applied Research in Mental Retardation* 2(1981):23-38.

Gunzberg, H. C. *Social Competence and Mental Handicap: An Introduction to Special Education.* Baltimore: Williams and Wilkins, 1973.

Hagner, D., J. Nisbet, M. Callahan, and C. Moseley. "Payment Mechanisms for Community Employment of Workers with Severe Disabilities: Realities and Recommendations." *The Journal of the Association for Persons with Severe Handicaps.* (In press).

Hanley-Maxwell, C., F. R. Rusch, J. Chadsey-Rusch, and A. Renzaglia. "Reported Factors Contributing to Job Terminations of People with Severe Disabilities." *Journal of the Association for Persons with Severe Handicaps* 11(1981):45-52.

Horner, R. H., and G. Bellamy. "Long-term Structured Employment Productivity and Productive Capacity." *Vocational Rehabilitation for Severely Handicapped Persons: Contemporary Service Strategies*, G. Bellamy, G. O'Connor, and O. Karan (Eds.). Baltimore: University Park Press, 1979.

Jageman, L. *Adaptive Fixtures for Handicapped Workers.* Menonee, Wisconsin: Stout Vocational Rehabilitation Institute, 1984.

142

Krauss, M. W., and A. MacEachron. "Four Supported Employment Alternatives." *Pathways to Employment for Developmentally Disabled Adults*, W. Kiernan and J. Stark (Eds.). Baltimore: Paul Brookes, 1985.

Krauss, M. W., and A. MacEachron. "Competitive Employment Training for Mentally Retarded Adults: The Supported Work Model." *American Journal of Mental Deficiency* 6(1982):650-53.

Lassiter, R. A., (Ed.). *Vocational Evaluation, Work Adjustment, and Independent Living for Severely Disabled People*. Springfield, IL: Thomas, 1983.

Mace, R. *The System*. Winston-Salem, NC: Information Development Corporation, 1985.

Mank, D., and L. Rhodes. "Four Supported Employment Alternatives." *Pathways to Employment for Developmentally Disabled Adults*, W. Kiernan and J. Stark (Eds.). Baltimore: Paul Brookes 1985.

Martin, J. E., F. R. Rusch, T. Lagumarcino, and J. Chadsey-Rusch. *Comparison between Workers Who Are Nonhandicapped and Mentally Retarded: Why They Loose Their Jobs*. Applied Research in Mental Retardation. (In press).

May, E. E., N. P Waggoner, and E. M. Holte. *Independent Living for the Handicapped and Elderly*. Boston: Houghton Mifflin Company, 1974.

McLeod, B. "Real Work for Real Pay." *Psychology Today*, 19(1935):42-44.

McLouglin, C., B. Garner, and M. Callahan. *Vocational Opportunities for Persons with Severe Handicaps*. Baltimore: Paul Brookes, (In press).

McLoughlin, W. P. "Career Counseling for the Mentally Retarded Adolescent." *Personnel* 62(1985):61-64.

Melia, R. "Point of View." *Perspectives on Supported Employment* (newsletter) Rehabilitation Research and Training Center, Virginia Commonwealth University, 2(1986).

Moon, S., P. Goodall, M. Barcus, and V. Brooke. *The Supported Work Model of Competitive Employment for Citizens with Severe Handicaps: A Guide for Job Trainers*. Richmond, VA: Rehabilitation Research and Training Center, Virginia Commonwealth University, 1985.

Mueler, J. *The Worksite: Designing for Functional Limitations*. Washington, DC: The Job Development Laboratory, The George Washington University Rehabilitation Research and Training Center, 1980.

Nebraska Governor's Committee on Employment of the Handicapped. *Illustrated Standards for Public Buildings*. Lincoln, NE: Fire Marshall's Office, 1978.

143

Nisbet, J., and M. Callahan. *Features of Vocational Services Which Assist Persons with Severe Disabilities to Achieve Success in Integrated Workplaces*, (In preparation).

O'Brien, J., and C. Lyle. *Framework for Accomplishment*. Decatur, GA: Response Systems Associates, 1987.

Payne, J. S. *Rehabilitation Techniques· Vocational Adjustment for the Handicapped*. New York: Human Services Press, 1984.

"Putting the Handicapped to Work." *Compressed Air Magazine*. April 1986.

Rashko, B. *Housing Interiors for the Disabled and Elderly*. New York, NY: Van Nostand Reinhold Company, 1982.

Revell, G., and P. Wehman. "Supported Work Model of Competitive Employment for Persons with Mental Retardation." *Journal of Rehabilitation* 50(1984):33-38.

Rhodes, L., and L. Valenta. "Industry-based Supported Employment: An Enclave Approach." *The Journal of the Association for Persons with Severe Handicaps* 10(1985):12-20.

Rudrud, E., J. Ziarnik, G. Bernstein, and J. Ferrara. *Proactive Vocational Habilitation*. Baltimore: Paul Brookes, 1984.

Rusch, F. *Competitive Employment: Service Delivery Models, Methods and Issues*. Old Tappan, NJ: P-H Books, 1986.

Rusch, F., J. Weithers, B. Menchetti, and R. Schutz. "Social Validation to Reduce Topic Repetition in a Nonsheltered Setting." *Education and Training of the Mentally Retarded* 15(1980):208-15.

Rusk, H. A. *Rehabilitation Medicine*, 4th Ed. St Louis, MO: C.V. Mosby Co., 1977.

Schalock, R. L., and O. C. Karan. "Relevant Assessment: The Interaction between Evaluation and Training." *Vocational Rehabilitation of Severely Handicapped Persons: Contemporary Service Strategies*, G. Bellamy, G. O'Connor, and O. C. Karan, (Eds.). Baltimore: University Park Press, 1979.

Setting Goals. Omaha, NE: Meyer Children's Rehabilitation Institute, University of Nebraska Medical Center, 1980.

Shelton, C. "An Alternative Employment Model." *Mental Retardation* 33(1983):12-16.

Staff, "The Future of Work for People with Disabilities." *Rehab Brief* 8(2)(1985): 1-4.

U.S. Commission on Civil Rights. *Accommodating the Spectrum of Individual Abilities*. Washington, DC: U.S. Government Printing Office, 1983.

144

U.S. Department of Health, Education and Welfare. "Non-discrimination on the Basis of Handicap." *Federal Register*. Washington, DC: Government Printing Office, May 4, 1977, p. 22675-22702.

Wehman, P., M. Hill, P. Goodall, P. Cleveland, V. Brooke, and J. Pentecost. "Job Placement and Follow-up of Moderately and Severely Handicapped Individuals after Three Years." *The Journal of the Association for Persons with Severe Handicaps* 7(1972):5-16.

Wehman, P., M. Hill, J. Hill, V. Brooke, P. Pendleton, and C. Britt. "Competitive Employment for Persons with Mental Retardation: A Follow-up Six Years Later." *Mental Retardation* 23(1985):274-82.

Wehman, P., and J. Kregel. "A Supported Work Approach to Competitive Employment of Individuals with Moderate and Severe Handicaps." *Competitive Employment for Persons with Mental Retardation: From Research to Practice: Vol. 1*, P. Wehman, and J. W. Hill (Eds.). Richmond, VA: Rehabilitation Research and Training Center, Virginia Commonwealth University, 1985.

Wehman, P., J. Kregel, and J. Seyfarth. "Transition from School to Work for Individuals with Severe Handicaps: A Follow-up Study." *The Journal of the Association for Persons with Severe Handicaps* 10(1985):132-36.

Weisgerber, R. A., P. R. Dahl, and J. A. Appleby. *Training the Handicapped for Productive Employment*. Rockville, MD: Aspen Systems Corporation, 1981.

West Virginia Research and Training Center. *Institute on Rehabilitation Issues: Functional Assessment*. Dunbar, WV, 1983.

Whitehead, C. *Final Report: Training and Employment Services for Handicapped Individuals in Sheltered Workshops*. Washington, DC: Office of Social Services Policy, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, 1981.

Will, M. "OSERS Programming for the Transition of Youth with Disabilities: Bridges from School to Working Life." *Critical Issues Related to Supported Competitive Employment*, S. Moon, P. Goodall, and P. Wehman (Eds.). Richmond, VA: Rehabilitation Research and Training Center, Virginia Commonwealth University, 1985, p. 12-29.

Wright, G. N. *Total Rehabilitation*. Boston: Little, Brown, and Co., 1980.