

VOCATIONAL
TRAINING FOR
MENTALLY
RETARDED ADULTS

A Behavior Analytic Approach

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RESEARCH PRESS

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Dedicated to our families:
Janis and Alexia
Cathy, Derek, Dana, Deirdre, and Dustin

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Note to Reader

In recent years we have witnessed an increased awareness on the part of vocational habilitation specialists, trainers, and special education teachers concerning the employment potential of the mentally retarded person. As we have learned about improved technologies to train complex vocational skills and about effective procedures to manage inappropriate behaviors, we have come to believe that even the most severely retarded person has an untapped vocational potential that can be translated into productive and independent work.

Unfortunately, this optimism about expanded vocational opportunities for mentally retarded adults has yet to result in real employment gains. A recent study conducted by the U.S. Department of Labor (1977a) suggests that annual departure from sheltered workshops ranges from 12% to 15%, and that 75% of these persons are placed into competitive employment within 1 year after entry into the workshop. In addition, the report indicated that 33% of this group were actually placed within the first 3 months. The study pointed out that the longer individuals remained in the workshop setting, the less likely they were to be placed outside that setting. These data suggest that persons most frequently placed into competitive employment were generally work ready when they entered the shop; training, therefore, was not a significant factor leading to employment. This raises the need to increase the employment opportunities of the remaining persons who are not placed within the first year or two after their entry into sheltered employment. Can these persons be placed into competitive employment if current resources and technologies are effectively and efficiently brought to bear upon the problems of training and placement?

This book addresses the problems associated with training and placing mentally retarded persons who fail to advance through the existing hierarchy of vocational training opportunities. Some severely and profoundly mentally retarded adults who are placed in activity and developmental centers remain at this lowest level of vocational adjustment for many years, with little hope or chance of advancing to a level of higher functioning. In addition, there are many moderately and severely mentally retarded persons placed in sheltered industry. Finally, there are mildly and moderately mentally retarded persons in sheltered settings who could successfully adjust to the requirements of competitive employment. At all levels of habilitation and service in the community, we have found movement along the continuum of least restrictive, more adaptive working environments the exception rather than the rule. Unlike the aspirations and expectations of persons in the normal work force, the mentally retarded person's outlook for advancement and continued development terminates rather than begins upon leaving the school system.

This book takes into account the problems of stagnation within the hierarchy of habilitation services by focusing upon the difficult questions of what vocational skills and behaviors should be trained, how one goes about training them, and how training outcomes can be translated into advanced vocational placement. Section 1 of this text addresses these "how-to" questions by outlining the essential characteristics of a behavior analytic approach to vocational training (chapter 1), discussing how these outcomes can be realized when the full range of potential training and management procedures is considered (chapter 2), and detailing how progress toward different training outcomes can be monitored, given the range of measurement options that are available (chapter 3).

Section 2 focuses upon the "what-to" questions by addressing service planning and by defining the social and vocational skills that must be acquired in order to succeed in any vocational setting. Chapter 4 offers a complete description of the necessary steps a vocational training program needs to incorporate to ensure total service planning is followed for each trainee. Chapter 5 emphasizes the importance of training the

social and vocational survival skills that are essential for successful adjustment. Because transportation to and from work is important for independence in the community, an entire chapter is devoted to training travel to and from the work setting (chapter 6).

Section 3 applies the information and strategies presented in the previous sections in a description of how to implement a successful placement program. This section outlines the placement procedures to employ at the completion of initial skills training, the steps required to establish the habilitation trilogy of survey, train, and place, which is essential for all persons wishing advanced vocational placements (chapter 7), and the follow-up strategies that will ensure successful maintenance of the newly acquired placement (chapter 8).

Much of the book is addressed directly to the managing trainer; that is, the person responsible for overseeing an individual's progress through the training program. Thus, *you* refers to the managing trainer unless otherwise indicated. Although much emphasis is placed on the duties and functions of the managing trainer, this book is appropriate reading for all personnel involved with the vocational habilitation of mentally retarded adults and those persons interested in such work.

F.R.R.

D.E.M.

SECTION 1

A Technical Framework for Vocational Training

This book assumes that the greatest impediment to successful vocational training of mentally retarded adults is not the lack of technological knowledge, but rather the lack of a cohesive, integrated, and coordinated application of our knowledge to the problems of vocational assessment, training, and placement. Although there is ample research evidence documenting success in training mentally retarded persons in such diverse skill areas as self-help, communication, social, and fine and gross motor behavior, it is yet to be used to make a significant impact on these persons' opportunities for independence in the community.

Section 1 addresses the problem of integrating and applying available knowledge by describing the essential characteristics of a behavior analytic approach to vocational training (chapter 1), detailing effective training and management strategies (chapter 2), and presenting methods of evaluating behavior acquisition and change (chapter 3). Taken together, these chapters constitute the framework that is necessary to develop a behaviorally based vocational training program.

Chapter 1 describes a behavior analytic approach to vocational training that will be further elaborated throughout the remaining seven chapters. Chapters 2 and 3 describe the technologies of behavior change and measurement as they relate to our vocational paradigm. Chapter 2 describes the technologies of behavior change by underscoring the importance of the means-ends relationship when selecting one set of strategies to train a new behavior or another set of procedures to modify existing behaviors. Chapter 3, also affirming the importance of this means-ends relationship, describes the measurement systems to employ when evaluating progress toward different behavioral outcomes.

In summary, Section 1 outlines the dimensions of a behaviorally based vocational training program, including how to modify adult behavior and evaluate that change. Attention to these how-to details is a necessary prerequisite to determining the what-to approach in Section 2.

1

A Behavior Analytic Approach to Vocational Training

DEVELOPMENTS LEADING TO THE APPROACH

In recent years significant advancements in the technologies of instruction have impacted upon the educational achievements of children, adolescents, and adults who previously failed to reach their full potential for growth and development. These technologies emanated from the behavioral research of the 1940s, '50s, and '60s which analyzed and described human behavior as an interaction between environmental events and behavior. Concurrent with this growth in instructional and behavioral technologies has been the development of more effective procedures *for* evaluating the *effects* environmental events have on *behavior*. The resulting behavior analyses of instructional situations have provided teachers, parents, counselors, psychologists, and others with an effective means of improving learning outcomes regardless of how seemingly different or difficult the individual's learning patterns may be.

As a practical approach to dealing with social problems found in such diverse settings as mental hospitals, classrooms, detention facilities, homes, prisons, group homes, and institutions for mentally retarded people, behavioral analysis continues to demonstrate its effectiveness in the identification of methods to improve individual growth and development. For example, today, more than in any other period in history, mentally retarded people are realizing that they can become productive, contributing members of society. This realization is centered around new and different opportunities for vocational training, which have recently been facilitated by a behavior analytic training approach (Bellamy, Peterson, & Close, 1975;

Crosson, 1969; Mithaug, 1979; Rusch, in press; Sowers, Rusch, Connis, & Cummings, in press).

The intent of this chapter is to present an approach to vocational training that is based upon those characteristics initially presented by Baer, Wolf, and Risley (1968) a decade ago when outlining the, then, "... current dimensions of applied behavior analysis" (p. 91). Applied behavior analysis has gained recognition as a conceptual approach to problems of social importance (Wolf, 1978). To date, it has been successfully used in teaching mentally retarded people such diverse skills as playing board games (Wehman, Renzaglia, Berry, Schutz, & Karan, 1978), purchasing color-coordinated clothing (Nutter & Reid, 1978), and crossing partially controlled intersections (Vogelsberg & Rusch, in press). The remainder of this chapter overviews the essential characteristics of a behavior analytic approach to vocational training. Subsequent chapters fully develop each of these characteristics.

CHARACTERISTICS OF THE APPROACH

Recently, research has indicated that adults can acquire a variety of vocational skills and improve their level of performance when provided appropriate behavioral training and management procedures. The first characteristic of a vocational training program incorporating a behavior analytic approach is the reliance upon *replicable training* and management procedures. Using a replicable procedure such as shaping, for example, to train new marketable skills (assembling, sorting, matching, and moving-fast) is a necessary component of a behaviorally based vocational training program. Equally important is an emphasis on procedures that manage acquired work skills. Management procedures such as verbally prompting, physically guiding, and verbally acknowledging behavior have been shown to increase the likelihood that behavior will or will not occur again. A behavior analytic approach must establish objectives to train work skills while employing management systems which rely upon behavioral procedures that have been demonstrated repeatedly to influence behavior acquisition and change.

A behavior analytic approach to vocational training is based upon the methods of applied behavior analysis which

have focused upon the training and management of skills and behaviors that are essential for survival in a community setting (Mithaug & Hagmeier, 1978; Rusch, 1979b). As a consequence, training generated from this model is individualized in accordance with response deficits or excesses, which is the second characteristic of the model. Third, there is an emphasis upon *direct observation* and measurement of vocational responses including such dimensions as speed of task completion (Rusch, 1977], going to and returning from breaks on time (Sowers, Rusch, Connis, & Cummings, in press), and discontinuing inappropriate behavior (Connis, Rusch, Sowers, & Thompson, 1977; Mithaug, 1978). The emphasis on direct observation and measurement requires that observations be made in the setting in which the vocational behavior occurs. Asking a trainee's coworkers at the end of the day to indicate whether the new employee went to and returned from breaks on time does not qualify as a direct observation or measurement of behavior. Break time management has to be measured in the setting in which the behavior actually occurs if it is to qualify as a direct observation.

A fourth characteristic of a behavior analytic approach to vocational training is that the behavioral measures involve *repeated* assessments, with the schedule of measurement a function of the vocational behavior or skill monitored. For example, repeated assessments have been made of an individual's promptness in completing tasks for several consecutive days (Bellamy, Inman, & Yeates, 1978). As the person has demonstrated the requisite promptness, this schedule has been extended to observations on alternate tasks, on alternate days, and eventually once a week (Rusch, Connis, & Sowers, 1979).

A fifth characteristic of a behavior analytic approach to vocational training is an objective analysis including quantification of the behavior of concern. Standing alone, inferential reports indicating someone got "better" or is "improving" are inadequate. The necessary quantification indicates what improved and to what degree. The sequence of events involved in this objective analysis begins by determining how much the behavior changed. To do this, you quantify the individual's performance level before you choose or implement a particular

procedure. Measuring this initial performance level entails establishing a baseline. With an established baseline, you can determine whether the person's behavior is in excess or not. Having established this, you can then determine what amount of behavior needs to be changed. Finally, a training procedure to effect desired behavior change is selected and applied. Recording and observing the behavior during the period when the training procedure is applied and comparing the individual's baseline performance with that during training will indicate the effectiveness of the particular procedure implemented. In turn, the effectiveness of various training procedures may be determined this way. For example, verbally acknowledging behavior may produce little improvement, while verbal admonishments might bring about a reverse effect, and corrective verbal feedback which incorporates acknowledgment and admonishment might produce a high degree of improvement. An effective procedure can thus be identified and can be applied to another training task for the same person or used with a second person through the objective analysis of quantification.

The sixth defining characteristic of a behavior analytic approach to vocational training requires the treatment of vocational performances in three training phases: acquisition, *maintenance*, and transfer. Because employment is the ultimate goal of all training, the individual must learn those vocational behaviors and skills that are required for the targeted job. The individual must learn to perform the required behaviors under the management conditions that exist in the potential job, not just under artificial conditions of training. In addition, initial acceptance and placement on the job do not necessarily indicate that the training effort was successful. You as trainer must provide the follow-up necessary to assess whether the behaviors acquired and maintained in the program have transferred to the job setting. Even after job placement, it is likely that the new employee will require some retraining, or even new training, in order to assure the maintenance and transfer of critical social and vocational survival skills for that placement.

A seventh characteristic of a behavior analytic approach to vocational training is a focus upon the *social and vocational survival skills* required in the community. It is evident, for

example, that certain social and vocational behaviors are necessary for successful adaptation in the community. These behaviors must be learned, maintained, and transferred to the job setting. Examples of social survival skills may include the ability to greet coworkers, answer questions posed throughout the work day, and be properly groomed upon arrival. Vocational survival skills may include producing at acceptable levels, looking busy when there is not enough to do but when under the scrutiny of the boss, and increasing the speed of task completion during peak times in the work setting.

The final defining feature of a behavior analytic approach to vocational training is the attention given to the social acceptability of the overall programmatic effort. This requires that those persons most affected by the proposed training effort validate the goals, procedures, and results. Trainees, parents or guardians, employers, supervisors, and coworkers are potential participants in this validation effort which must determine whether the training procedures and processes are justified.

CONCEPT REVIEW

Characteristics of a Behavior Analytic Approach to Vocational Training

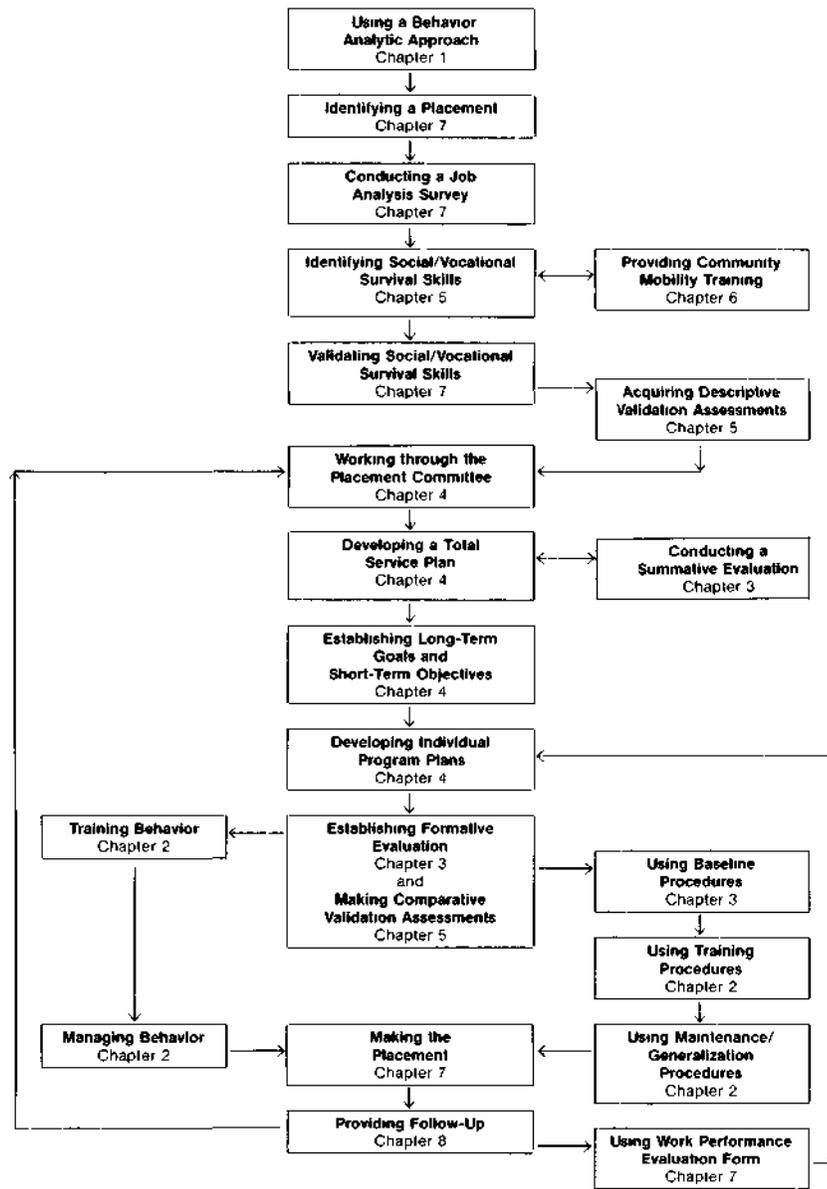
1. Replicable training and management procedures
2. Individualized training
3. Direct observation and measurement
4. Repeated assessments
5. Objective analysis including quantification
6. Acquisition, maintenance, and transfer
7. Social and vocational survival skills
8. Social acceptability

SUMMARY

A behavior analytic approach to vocational training takes into account the interactions between human behavior and the environment. Because of this, the training approach stresses direct observation and measurement of the social and vocational behaviors that are necessary for community survival.

Further, observation and measurement are repeated, quantified, and objectively analyzed in order to determine the relative effectiveness of alternative training procedures. In addition to assessing acquisition of the necessary social and vocational behaviors, a behavior analytic approach to vocational training also focuses upon the maintenance of these behaviors and skills and their transfer to the community. Finally, the entire training effort is validated by the adjudicators of the habilitation process—the consumers. The trainee, parents, guardians, employers, and all other persons involved in the process must validate the goals, procedures, and results of the overall training effort. Figure 1.1 shows an overview of the behavior analytic approach to vocational training described in this book.

FIGURE 1.1 PROGRAM OVERVIEW



2

Behavior Training and Management

Over the past 25 years, we have noted a shift in vocational research from the study of different motivational or behavior management strategies during the 1950s and '60s to investigations of skill training techniques during the late '60s and '70s. The first studies to motivate worker behavior focused upon how productivity could be altered by manipulating task consequences. When producing a product or completing a task resulted in a consequence valued by the trainees (e.g., praise, food, candy, or money), their production rates increased; when these consequences were not forthcoming, their work levels decreased. The types of consequences manipulated in this research included goal setting and encouragement (Gordon, O'Connor, & Tizard, 1954, 1955; O'Connor & Calaridge, 1955), interval and piecemeal pay (Evans & Spradlin, 1966), social contingencies and monetary reward (Huddle, 1967), and tokens (Zimmerman, Overpeck, Eisenberg, & Garlick, 1969).

As these studies continued into the early '70s (Brown & Pearce, 1970; Brown et al., 1972), researchers shifted their attention to training techniques that facilitated the acquisition of new skills. This began with Crosson's (1969) study of the instructional cues necessary to train severely mentally retarded workers to operate a drill press and Gold's (1972) research on the use of color coding to train severely and moderately mentally retarded persons to assemble a 15-piece bicycle brake. These efforts prompted others to investigate the use of instructional cues to facilitate the acquisition of the cam switch assembly (Bellamy, Peterson, & Close, 1975), the cable harness assembly (Hunter & Bellamy, 1976), and the circuit board assembly (Levy, 1975).

Apart from these trends, the difference between learning problems and behavior problems has long been recognized. When a person has difficulty learning a new skill, it has been the practice to subdivide the task into smaller learning units so that mastery can occur a step at a time. This constitutes a rearrangement of antecedent events. People who can complete an assigned task but do it too slowly require a different tactic—one that provides more attention to working quickly. This constitutes a rearrangement of consequent events: attention, which occurs after the behavior, is contingent upon appropriate (working quickly) rather than inappropriate behavior (working slowly).

This chapter focuses upon training and managing vocational behavior. Training, here, refers to developing new skills or vocational behavior. Managing involves tactics to increase, decrease, maintain, or generalize acquired or existing vocational behaviors. The prescription to train someone to operate a conveyor belt dishwashing machine is a training objective. The expectation to increase the pace of loading 100 dishes into the dishwasher per minute to 300 dishes per minute is a management objective. This chapter reviews and describes training and management derived from the principles of shaping, discrimination, generalization, reinforcement, punishment, and extinction, with a discussion of the alternative schedules of reinforcement that may be incorporated to build and strengthen behavior. The first three principles focus primarily, though not exclusively, upon developing new behaviors, while the principles of reinforcement, punishment, and extinction describe how to modify the frequency of levels or patterns of behavior.

BEHAVIOR TRAINING

A behavior analytic approach to vocational training entails describing different behavior-environment interactions in terms of: (1) the antecedent cue that immediately precedes the behavior, (2) the behavior brought about by that cue, and (3) the events that immediately follow the behavior (i.e., the consequences). These three descriptive elements will assist you in selecting procedures that develop new behaviors or modify the frequency of existing ones. Although the distinction between antecedent and consequent interventions is more conceptual

than empirical, it does provide a useful system for organizing different training and management strategies.

The behavioral principles that describe relationships between antecedent events and behavior during the acquisition of new skills include shaping, discrimination, and generalization. Each principle states the conditions necessary to establish a new pattern of behavior. The shaping principle describes how to establish responses previously absent from a trainee's behavioral repertoire (e.g., buttoning a shirt). The discrimination principle describes how existing behaviors come under the control of new stimulus events (e.g., working faster comes under the control of higher stacks of dishes versus the trainer's verbal command, "work faster"). The generalization principle describes how behavior that occurs when in the presence of one stimulus comes under the control of stimuli that are similar (e.g., when a person is taught to mop a dirty floor in one setting—possibly the training setting—she learns to mop the similar, dirty floor in another setting—on the job). These principles are general statements of the relationship between environmental events and behavior and consequently do not describe how to teach a particular skill.

Shaping

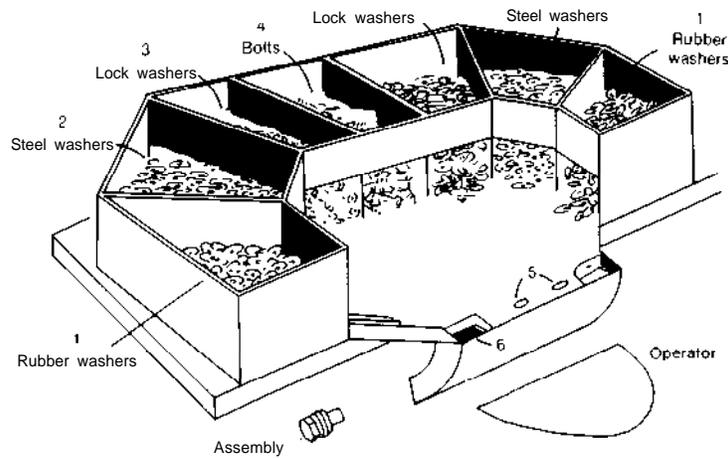
Shaping in this context is the reinforcement of vocational behaviors that successively approximate the desired vocational behavior. For example, if you are interested in training someone to clean a large soup pot, tell the person the necessary steps for cleaning that soup pot, *and* concurrently reinforce the person for approaching the completion of the desired vocational behavior—work that results in a clean pot. Two important instructional strategies are subsumed in any shaping program. They are task analysis and instructional programming. Although important features distinguish one strategy from the other, both break down terminal behaviors (e.g., work resulting in a clean soup pot) into learning units that can be trained separately, or in a sequence gradually leading to the desired outcome. This breakdown and gradual buildup of component behaviors exemplifies the shaping process.

TASK ANALYSIS. Task analysis developed in the 1930s when industrial engineers began trying to improve the effectiveness and efficiency of work on different tasks. This process involved the "systematic identification of all materials, movements, and responses of an existing task operation in order to arrange or rearrange these materials, movements, and responses into a sequence that results in the completion of the original task operation with a maximum of effectiveness and efficiency" (Mithaug, 1979). There were two phases in this process: a logical one, during which one listed the sequence of movements and responses that led to task completion, and an empirical one, during which one performed the task to verify the adequacy of the logically derived sequence (Verdier, 1960). When more than one sequence could lead to task completion, data generated during the empirical analysis identified the most effective and efficient method. Figure 2.1 shows a task analysis of such an improved method of assembling bolts. In an earlier analysis the worker used both hands to assemble a single bolt unit, and in the second (Figure 2.1) he used fixtures situated on the work station to assemble a bolt unit in each hand. The latter method increased production over the first by 53% (Barnes, 1963, p. 226).

One of the first applications of task analysis in vocational education was to develop an instructional sequence for training severely mentally retarded workers to operate a drill press (Crosson, 1969). Since that study, there have been many applications of these procedures to the vocational training of mentally retarded persons, with the frequently cited task analysis of the bicycle brake paving the way for more general acceptance of this methodology in vocational training of severely mentally retarded adults (Gold, 1972). One advantage of this method has been the opportunity it provided for the identification of the difficult stimulus-response units that require special training. As Crosson (1969) indicates:

Once the operants are specified, the task is then analyzed with respect to stimuli or cues which can be associated with each of the operants. Typically, such stimuli are integral parts of the task and are automatically correlated with the appropriate operant. Each behavior, once emitted, alters the stimulus field and

FIGURE 2.1 TASK ANALYSIS OF BOLT-WASHER ASSEMBLY-IMPROVED METHOD



- | Left Hand | Right Hand |
|--|---|
| 1 Reaches for rubber washer in bin 1 and | Reaches for rubber washer in bin 1 |
| 2 Grasps rubber washer from bin 1 and | Grasps rubber washer from bin 1 |
| 3 Slides rubber washer to countersunk hole and | Slides rubber washer to countersunk hole |
| 4 Positions rubber washer in countersunk hole 5 and | Positions rubber washer in countersunk hole 5 |
| 5 Reaches for plain steel washer in bin 2 and | Reaches for plain steel washer in bin 2 |
| 6 Grasps steel washer from bin 2 and | Grasps steel washer from bin 2 |
| 7 Slides steel washer to countersunk hole and | Slides steel washer to countersunk hole |
| 8 Positions steel washer in countersunk hole 5 and | Positions steel washer in countersunk hole 5 |
| 9 Reaches for lock washer in bin 3, and | Reaches for lock washer in bin 3 |
| 10 Grasps lock washer from bin 3 and | Grasps lock washer from bin 3 |
| 11 Slides lock washer to countersunk hole, and | Slides lock washer to countersunk hole |
| 12 Positions lock washer in countersunk hole 5 and | Positions lock washer in countersunk hole 5 |
| 13 Reaches for bolt in bin 4 and | Reaches for bolt in bin 4 |
| 14 Grasps bolt from bin 4 and | Grasps bolt from bin 4 |
| 15 Carries bolt to washers at 5 and | Carries bolt to washers at 5 |
| 16 Positions bolt preparatory to inserting it into washers at 5 and | Positions bolt preparatory to inserting it into washers at 5 |
| 17 Assembles bolt and washers and | Assembles bolt and washers |
| 18 Lifts bolt and washers carries to left and releases into top of chute 6 and | Lifts bolt and washers carries to left and releases into top of chute 6 |

Reprinted by permission, from R M Barnes, *Motion and Time Study*, (John Wiley & Sons, New York, 1963), p. 114, and D K Mithaug, the relation between programmed instruction and task analysis in the prevocational training of severely and profoundly handicapped persons, *AAKHi'H Hcvww*. 1979,4 (2), 107.

sets up the next response.... Occasionally, these stimuli are difficult to recognize. For training purposes, they must, therefore, be made more prominent. This can be the first step in programming the task. Where a particular set of stimuli appears too weak, some feature can be changed or augmented so that it becomes more likely that the desired control over the response will be obtained. (p. 815)

Before using task analysis in your training program, give careful attention to two issues: where to begin your training in the task analysis sequence and how much of the sequence to train at once.

Where To Begin Training. You can begin training a task analyzed sequence in one of three ways: (1) at the beginning, (2) between the first and last step, and (3) on the last step of the sequence. If you decide to begin with the first step and proceed through each successive one, the trainee has an opportunity to learn the task sequence in addition to the specific movements required at each step. This method, usually referred to as *forward chaining*, contrasts with methods that begin with the last step of the sequence—backward chaining. During *backward chaining*, the trainee learns the last step first, then the last two steps, the last three steps, and so on until she has mastered the entire sequence. Backward chaining is a good choice when you feel the trainee will perform better if she knows what the final product will be. Realizing what the final product will be is not possible with forward chaining since the trainee always begins with the first step. She may complete many sessions before coming to the end and seeing the final product.

As already indicated, you may begin training on a step within the sequence. This is particularly helpful when it is important to begin work on a step the trainee can complete successfully. By placing the trainee in the sequence according to his skill level, you have an opportunity to develop a simple-to-complex sequence that allows him to gradually approximate the terminal behavior. Obviously, your decisions about how to use a task analyzed sequence should be based on the instructional needs of the individual. Rather than assuming one method to be more effective than another, note the responses of different trainees in a program. The data may require that you employ all three procedures for different trainees on the same task or for

the same trainee on three different tasks. Remember, there is no evidence supporting the use of one technique for all trainees on any task!

How Much Training at Once. In addition to deciding where to begin, you must determine how many steps to introduce during a given session. This may vary from one step to all of the steps in the sequence.

During single-step training, the trainee reaches criterion on each step before being introduced to the next step in the sequence. You train a new step in isolation from others. The first objective in this method is to develop the behavior necessary to perform one step in the sequence. This is skill training. The second objective is to use the behavior to complete a sequence, which is application training. This two-part approach is absent in full-sequence training, wherein the trainee completes the entire sequence during each session. For a trainee to perform in full-sequence training, you must provide varying levels of assistance as she attempts steps requiring skills not yet established or developed.

Before committing yourself to single-step or full-sequence training, consider some of the advantages and disadvantages associated with each. During full-sequence training, for example, the person learns each step in the proper context of completing the sequence; whereas during single-step training, she may experience difficulty transferring from the skill training to the application sessions. On the other hand, when you use the full-sequence format, you do not have an opportunity to train one step intensively. Perhaps you need to train someone to load a dishwasher with two hands (skill training) many times before or apart from teaching her to use two hands in the sequence of picking up one dish, moving to the garbage can, scraping the dish, placing the dish on the loading shelf, repeating these tasks until five dishes are on the shelf, picking up the dishes, and then picking up the dishes and loading the dishwasher with both hands. First training someone to load with two hands is single-step training; later training her to fit that step into the sequence is application training. Training someone to load the dishwasher with two hands at the same time that you're also training her to scrape, move, place, etc., is full-sequence training.

How, then, do you decide on one strategy over another? As before, let the problem dictate the solution by allowing individual needs to determine how much you should train at a time. Some tasks are amenable to full-sequence training either because the steps within the sequence require comparable behaviors or because the most difficult step requires behaviors already in the trainee's repertoire, e.g., sorting dishes after having learned the behaviors constituting sorting. Other task-trainee matches may not be as successful, especially when there is a range in the responses required from step to step or when the trainee has few requisite responses for any of the steps. This situation may occur during the skill training of profoundly mentally retarded persons who have no previous experience performing any task. In that case you might have to frequently or continuously physically prompt and guide the trainee through the correct movements.

Ideally, you will select and analyze tasks to facilitate as much independent learning as possible. In this regard, the applications of task analysis for vocational education differ from those of industrial engineering, which focus upon improving the effectiveness and efficiency of worker production. In vocational education, task analysis is used to improve the effectiveness and efficiency of learning. As an instructional procedure the process aids learning effectiveness by facilitating trainee progress toward independent task performance. As a consequence, the method is effective only to the extent that it allows more independent learning.

INSTRUCTIONAL PROGRAMMING. As the previous discussion suggests, task analysis is but one component of the shaping principle. It does not stand alone. Oftentimes, additional procedures are needed to help the trainee move from existing behaviors toward the desired outcome. Here instructional programming may be of value.

In instructional programming the shaping principle is applied to arrange and present instructional cues and consequences that result in high levels of correct responding. These levels are maintained as the requirements for correct responding are gradually changed so that reinforcement of responses that successively approximate the terminal behavior can occur (Mithaug, 1979).

Instructional programming provides a set of procedures and materials that gradually develop new skills. The instructional procedures may include combinations of verbal instructions or cues, physical demonstrations, physical prompts or gestures, physical assistance, and physical guidance. These procedures are employed to promote behaviors that successively approximate the terminal behavior. The instructional materials are the specific tasks and objects that are presented, arranged, and rearranged to advance correct behavior. Selecting procedures and materials that fit a particular trainee's needs is individualizing the instructional process. This is where all vocational programming must begin. Before selecting an instructional procedure, determine the level of instructional assistance the trainee needs to learn a task. You can define these needs in terms of the type of cues you must provide to obtain a correct response. Four levels of instruction for this purpose may include: verbal cue, verbal cue and modeling, verbal cue and physical gestures or prompts, and verbal cue and total physical assistance or guidance. (Chapter 6 contains a detailed overview of levels of instructional assistance.)

During verbal cue, which is the highest level of assistance, you describe the expected behavior in language the trainee understands. For mildly mentally retarded workers a brief instruction of one or two sentences may promote a correct response. For moderately mentally retarded workers the instruction might consist of only a few words. In both cases, of course, the instructional cue is your verbal comment(s). It is desirable that trainees respond appropriately at this level since this assistance is most frequently used by employers, supervisors, and coworkers. Also, the method is cost/effective in that group instruction is possible through verbal instruction.

For many adults, however, verbal instruction is not effective and you must demonstrate or model what is expected. To model a correct response, perform the required movements and then allow the trainee to imitate those movements. Again, there are variations in instructional levels; some demonstrations involve many movements, while others consist of only one or two. In some cases your demonstrations of an entire sequence are sufficient for the trainee to correctly imitate all the movements. In others, however, only models containing a single

movement will be successful. As with verbal cues, you must match each trainee's ability to the level of instruction that facilitates correct responding.

At a third level of instructional assistance you can use *physical gestures or prompts* to indicate what to do. The prompt might consist of moving the trainee's hands or arms to begin the appropriate response. As soon as the movement is underway, discontinue the assistance.

The fourth level, *verbal cue and total physical assistance or guidance*, requires you to physically move or guide the trainee's movements through the correct sequence. This technique is effective with severely and profoundly mentally retarded trainees who are learning tasks requiring new responses. With each of the four levels you should always provide simple verbal instructions in the form of a cue.

PROGRAMMED MATERIALS. Programmed procedures in this context describe the activities you perform as a trainer to facilitate correct responding. Programmed materials, on the other hand, consist of arrangements of objects, tasks, and materials that will promote a desired behavior. The instructional programs developed in the 1960s illustrate the applications of programming technologies to such instructional topics as geography (Buchanan, 1962), writing (Gordon, Bugard, & Young, 1965), spelling (Buchanan, 1967), reading (Buchanan, 1966), and math (Sullivan, 1968). Applied to vocational training, this methodology can generate curricular sequences that will develop behaviors across several different tasks. This is important since task analytic training strategies typically focus upon a specific task operation (Mithaug, 1979):

Although this deficit may not be significant for the trainee's learning skills required on the present job, it is a serious problem for the school-aged person who has yet to learn many skills prior to placement in the community. For this population, we must search for an alternative to task by task training, a strategy which develops the generative skills necessary to complete all tasks of a given class.

Recently, Mithaug and Stewart (1978) developed the Match-Sort-Assemble program, which is the first of a series of curricular materials designed to train moderately, severely, and

profoundly mentally retarded persons the generalized ability to discriminate, manipulate, and produce with efficiency, effectiveness, endurance, and independence over a wide range of vocational tasks. The program is not an analysis of an existing task that trains a single set of manipulative responses. It is a sequence of simple-to-complex training steps designed to gradually shape the trainee's responses through increasingly complex levels of development. At each successively higher level of competence the trainee applies newly acquired skills to perform correspondingly more difficult tasks. In the process of learning to respond appropriately to increasingly difficult tasks, she gradually develops more complex discriminative and manipulative skills. Also, at various levels in the training program, the individual independently performs application tasks in order to: (1) practice and apply newly acquired matching, sorting, and assembly skills; (2) learn the production cycle sequence of input-assembly-output; (3) develop independence while working continuously and without disruptions; (4) increase the quality and quantity of work produced; and (5) increase the length of time spent working productively.

Discrimination

The discrimination principle states that the more dissimilar the properties of two or more environmental events, the more likely the events will have differential effects on behavior. This statement has important implications for training because it suggests procedures for linking different behaviors to different environmental events, e.g., sorting varying sizes of unassembled bolts, nuts, and washers placed in one barrel together versus assembling similar sizes of bolts, nuts, and washers that have been sorted. Subsumed within the discrimination principles are the notions of stimulus control and discrimination training procedures.

STIMULUS CONTROL PROCEDURES. All discrimination training begins with the establishment of a predictable relationship between a cue and a response. For example, when a clock indicates it is 11:30 a.m. (cue), it is time to go to lunch (response). The cue may also be a verbal request, a sign, a gesture, or another event occurring in the environment such as a light,

sound, picture, or movement. Whatever the event, its relationship to the response must be predictable. *Predictability* here is defined by the response that occurs in the presence of a cue. Once this relationship is present, the response is under stimulus control. When you say, "Please come here," and the trainee walks forward, is presented a task, and begins working, the verbal cue is thought to control his approach behavior and the task presentation to control the working responses.

A person's day-to-day interactions with others and with the environment involve a complex network of these predictable relationships. When training a mentally retarded person, however, you cannot assume all of these relationships common to nonretarded persons. Many of the stimulus control relationships normally expected may not be present. Trainees with limited receptive language may not respond to instructions exceeding three or four words. Others may not respond to any verbal cues at all. In fact, some profoundly mentally retarded persons may not be under the control of any stimuli that control other persons. In this sense, stimulus control is really a function of what is known about behavior. The phrase "the trainee is not under stimulus control" means that the events influencing his behavior are not known.

To begin a training program, you need to know what environmental event(s) brings about a desirable behavior. When this information is absent, you can either conduct an assessment to determine the effects of different events or develop new stimulus control relationships. The first option requires an analysis of the functional relationships between different environmental events and the trainee's behaviors. As noted in chapter 1, it is necessary to compare behavior subsequent to training with behavior after training—an objective analysis. Although this may be successful, sometimes it is difficult to incorporate these findings into a training sequence because there may be little relationship between the skill to be trained and the new finding. The discovery that a flashing light causes a trainee to look toward that light does little to aid you in developing a program to train sorting skills.

The second option is usually more helpful. You can establish control with such cues as verbal commands, signs,

gestures, and instructional materials. By subtly altering these cues, you can generate additional control over a wider range of behaviors. To begin, however, establish a single relationship through differential reinforcement. *Differential reinforcement* requires you to reinforce the trainee for responding in the presence of a specific environmental event, but not in its absence. For example, you might present a cue, allow the trainee time to respond, and then deliver a reinforcer; or you might say, "Please come here," allowing time for him to approach, and then praising him for coming. In each of the two examples you would withhold reinforcement for failure to respond.

This procedure is not effective, however, when trainees fail to respond and thus allow no opportunities for reinforcement. These individuals need additional training to increase their chances of responding correctly. You may have to make cues more prominent, for example, by shortening the instructional phrase to "come," or by speaking loudly. You also may need to prompt the trainee by gesturing or by physically guiding him to the location indicated by the command; then provide reinforcement of the desired behavior.

Discrimination Training Procedures. One difference between stimulus control and discrimination training is that while both establish a predictable relationship between a cue and a response, stimulus control procedures are used to establish a single cue-response relationship, and discrimination training procedures are employed to establish multiple cue-response relationships. When a trainee responds one way to one cue and a different way to another, you can say she "discriminates." To train these multiple discriminations, use differential reinforcement again. Discrimination training requires you to consider several factors. One factor is that discrimination training should begin with cues that are as different as possible. This increases the probability of a correct response. Exaggerate differences between cues by making several features of one cue different from the other or by making the cues grossly different on a single dimension. Then, during the training sequence, gradually rearrange stimulus materials so that they change from multiple to single cue differences. For example, during basic programs, the trainee first learns to discriminate between objects differing by

shape, color, and size. Then she learns to discriminate between objects differing only in color and size. The next discrimination is between objects differing on a single dimension (e.g., only shape, color, or size). Here you use large cue differences to facilitate correct responding. If the stimulus objects vary by shape, the trainee's first discriminations are between objects whose shapes are as dissimilar as possible (e.g., a square and a circle). For different colored objects the first discriminations are between different colors rather than shades of the same color.

A second factor concerns the presentation of tasks. You can maximize correct responding when beginning a training session by presenting a single item or task at a time. This allows the trainee to learn the correct response in the absence of other distracting items or tasks. During discrimination training for screwdriver and hammer, for example, request the hammer when the screwdriver is absent. This assures a correct response because the trainee can select only the hammer. If he fails to respond, provide the necessary prompts to establish a relationship between your request and his response of picking up the hammer, continuing this procedure until each request results in a correct response. Next request the screwdriver, but only when the hammer is absent, again remembering to reinforce correct responses, and not incorrect ones, to establish a correct selection. Continue this procedure until the trainee consistently responds correctly on the first request. Then present the two objects in the same session by first requesting one object repeatedly for a correct response and then, the second object. Finally, make random requests for the hammer and the screwdriver and reinforce correct selections, but not incorrect ones. During the final phase, add other objects (e.g., a nail, a watch, and a cup) one at a time while continuing the requests for hammer and screwdriver.

Generalization

The generalization principle states that the more similar two or more events are, the more likely they will have similar effects on behavior. This is important for determining the effects of cues delivered by new trainers. It is also important when the trainee must use a recently acquired skill to perform a new task.

In the first case you would expect the trainee to respond appropriately to any person who initiates a greeting. Although such greetings may vary—one person says, "Hello, how are you?" another says, "Hi, how are you doing?" and a third says, "Good morning!"—a correct response may be the same for all three, i.e., saying "Hello." Saying "Hello" to each greeting constitutes a generalized response. The same response applies to different, though similar, greetings. In the second case the trainee learns a skill and then applies it to complete a task. Here the response requirements during task completions may be different from those for skill training because the trainee integrates newly learned responses into the task sequence. For example, during training, you usually provide the cue to commence work, but during task completions, the signal for the new behavior comes from the preceding step in the sequence. Essentially, the completion of one task cues the trainee to begin work on the next task in the sequence. When the trainee makes these adjustments, she is generalizing responses.

When both stimulus and response generalization occur at once, the trainee is adapting to a new situation by behaving differently in response to different conditions. While such adaptation is the ultimate goal of training, you will need to prepare trainees for this flexibility through deliberate stimulus and response generalization programs. During stimulus generalization programs, you may focus upon developing consistent responses to a variety of conditions by expecting the trainees to work productively under a variety of supervisory conditions. Changes in supervisors should not alter performance. During response generalization programs, focus on developing generative responding: the ability to make responses that are applicable across different, but similar tasks. For example, a trainee might learn to assemble bolts, washers, lock washers, and nuts and to fasten together parts of one industrial assembly task, as well as learn *other* industrial assembly tasks.

STIMULUS GENERALIZATION TRAINING. TO train stimulus generalization, pair the stimulus that controls the response with a second stimulus, gradually fading the first one as the second gains control over the behavior. Then discontinue the controlling stimulus while maintaining behavior effects with the

second stimulus. A simple example of stimulus generalization training might involve training person X in your presence (the controlling stimulus) and in the presence of a second trainer who would later assist person X's later efforts to work on the same task.

RESPONSE GENERALIZATION TRAINING. During response generalization, the objective is to develop variability, rather than consistency, in responding. Trainees must maintain a sufficient range of responding to be flexible in new work situations. Having learned to use a mop and broom to complete one task, the trainee must be able to work at different tasks requiring similar tools. Larger mops and smaller brooms should not reduce her ability to complete new tasks. This adaptation of existing responses and skills to new task conditions is generative responding.

During response generalization training, provide numerous opportunities to perform newly acquired skills in different task situations. Although the first application of a skill usually requires that you provide additional instruction, subsequent applications reduce this need until finally the trainee correctly applies the skill on the first trial. Again, this is generative responding. For tool use skills, generative responding occurs when the trainee can use any type or size mop to clean floors in different locations.

In addition to providing new application opportunities, carefully select and sequence tasks. During the first applications, response requirements of the new task should be as similar as possible to the original ones. This minimizes the need for additional training and maintains the trainee's independence from supervisory corrections. In the Match-Sort-Assemble program (Mithaug & Stewart, 1978), for example, one objective is to train severely mentally retarded persons to order objects on a printed template from left-to-right and top-to-bottom. During this 157-step program, trainees match, sort, and assemble different sizes of bolts, flat washers, lock washers, and nuts according to this format. In addition to changes in specific movements required to sequence and order objects, the stimulus objects themselves vary by shape, length, and diameter. Throughout the sequence, response requirements gradually

increase from one step to another. These variations, combined with numerous opportunities to apply new skills, systematically move trainees toward the generative left-to-right and top-to-bottom ordering of their work materials during progressively more difficult sorting, matching, and assembly tasks.

CONCEPT REVIEW

Principles for Training Behavior

1. Shaping principle
 - a. task analysis
 - b. chaining
 - c. instructional programming
 - d. programmed materials
2. Discrimination principle
 - a. stimulus control
 - b. differential reinforcement
 - c. discrimination training
3. Generalization principle
 - a. stimulus generalization training
 - b. response generalization training
 - c. generative responding

BEHAVIOR MANAGEMENT

Managing behavior is necessary to increase, decrease, or maintain the level of an existing behavior. Objectives that specify an increase in *behavior* focus on developing more proficient skills or more acceptable behaviors. Objectives that specify a *decrease in behavior* concentrate on eliminating inappropriate behaviors or reducing incorrect responses. Objectives to maintain *behaviors* concentrate on the different conditions under which this consistency or stability is important. These usually involve, for example, the scheduling or rescheduling of reinforcing consequences. For each class of objectives, whether it is to increase, decrease, or maintain behavior, you will need to know how to arrange consequent events. Arranging consequent events is behavior management, in contrast to training procedures used in the arrangement of antecedent events.

Management strategies discussed in this section emanate

from the principles of reinforcement, extinction, and punishment. Reinforcement principles describe how events that immediately follow a response can increase its likelihood of occurring and hopefully its frequency over time. The extinction principle describes how the discontinuance of reinforcement decreases the likelihood of a response and its frequency over time. The punishment principle describes how consequent events can decrease and/or eliminate a behavior.

Reinforcement

The principle of reinforcement describes the relationship between a behavior and an event that follows that behavior: a consequence. Reinforcement occurs when an increase in responding is a function of the presentation or withdrawal of the consequent event. When the presentation produces an increase in response rates, the process is called positive reinforcement and the event is called a positive reinforcer. However, when the withdrawal produces an increase in response rates, the process is called negative reinforcement and the event is called a negative reinforcer. In both instances there is a contingent relationship between the response and the event. An example of positive reinforcement is following correct lawn mowing with a praise statement, which will increase the likelihood of correct lawn mowing in the future. During negative reinforcement, a trainee's response actually reduces or prevents an event from occurring, as when the trainee's hard work prevents you from saying, "Get to work." Both positive and negative reinforcement produce the same effect (i.e., an increase in response).

POSITIVE REINFORCEMENT. All training and managing programs should involve the use of positive reinforcement. This maximizes the trainee's interest in and motivation to work. To establish such a program, you will need to consider three essential elements: the behavior, the contingency, and the reinforcer. The behavior may be grasping a lever; the contingency, the time that elapses and/or the condition under which the behavior is performed; and the reinforcer, the event that follows the behavior (e.g., a pat on the back). When properly arranged, these elements define consistent behavior management, which is a chief trait of an effective behavioral program.

To reinforce a behavior, you first define whether the outcome to be reinforced is a single behavior, a task unit composed of several behaviors, or a product which includes the actual beginning, operating, and concluding behaviors required to produce something. When the outcome is a single behavior, the definition should contain observable movements that have definite beginnings and endings. Picking up a garbage bag is an example of a single behavior that has a definite beginning (touching) and ending (lifting).

Outcomes may also consist of task units composed of several behaviors short of the actual completion of the task. For example, picking up and releasing a garbage bag contains several behaviors, most notable being the grasping, lifting (picking up), and releasing of the bag. There may be several behaviors that complete a segment or a single unit within a task sequence; however, your interest is directed toward the completed task unit—the outcome.

As already noted, still another method of defining an outcome is specifying an actual product. The product might involve several behaviors; however, reinforcement is contingent upon the completion of the entire product, its sum of behaviors and task units. For example, a product may include (1) picking up an object or objects from the materials supply; (2) arranging or rearranging the objects in a prescribed manner (e.g., assembly or disassembly); (3) depositing the completed product for further assembly, distribution, or recycling; and (4) repeating Steps 1-3 until the materials supply is depleted, the quota of work completed is met, and/or the work period has ended.

The importance of the distinction between a behavior, a task unit, and a product is apparent when you attempt to establish a relationship between one of these outcomes and a reinforcer. Agreement on criteria for delivering and withholding reinforcers will promote consistency in your application of a management procedure, which is essential for success. When the trainee responds as expected (i.e., beginning and ending that behavior), you provide the prescribed consequence. In the following examples a positive reinforcer follows three vocational outcomes: a single behavior, a task unit, and a product, respectively.

1. When the trainee picks up an item from one bin and places it in another bin, the trainer delivers praise.
2. When the trainee correctly sorts three differently shaped objects of a 15-item assembly task, the trainer delivers praise.
3. When the trainee sorts all 15 objects into the three bins designated for the three different shapes, the trainer delivers praise.

In the first example the contingency links the trainee's pick-up and release behaviors with praise from the trainer. In the second example the relationship is between three sorting responses and praise, and in the third case the contingency links completion of the product with praise. In each case a different outcome defines when the trainee should get a reinforcer.

In addition to defining outcomes and specifying contingencies, you need to identify and select the positive reinforcer. This can be difficult because interests and preferences vary across trainees. Some trainees will work for social approval, while others may require tangible rewards such as money or tokens. Sometimes a trainee will work for long periods on a particular task when the trainer provides feedback only on productivity levels. Still other trainees work only for consumable consequences such as food or drink. The food and drink are events that are intrinsically reinforcing; whereas, money and social behaviors are secondary reinforcers that may not have acquired reinforcing value for a particular person. This discrimination provides an important perspective on the two goals of establishing a positive reinforcement program, on the one hand, and evolving toward a normative reinforcement program on the other. A normative reinforcement program includes reinforcers normally available to the general work force, e.g., the paycheck. The first goal, of course, is to search for and select whatever events will be effective in increasing the frequency of a target behavior. With this accomplished, you can focus upon evolving the system toward conditions that simulate contingencies in the targeted placement. Although you may have to establish an effective management program, ultimately

the trainee must respond to the social and monetary contingencies present in more natural settings. For example, Rusch, Connis, and Sowers (1979) found that social and token reinforcement were effective in increasing the time a trainee spent attending to her tasks. Before the investigators could place the trainee, however, they had to teach her to work for a check on a biweekly basis as opposed to receiving reinforcement every day with points (tokens) that could be exchanged for items in a program store. Finally, as you search for an event that is reinforcing, you must remember to observe the unique interests and preferences of each trainee. Rather than assuming that events such as smiles, pats on the back, tokens, and money are reinforcing, you must validate possible effects by making their delivery contingent upon a behavior and then noting any change in the behavior. (Chapter 3 deals directly with evaluating anticipated change.)

NEGATIVE REINFORCEMENT. The three essential elements of a positive reinforcement program—behavior, contingency, and reinforcer—are equally important for negative reinforcement. You must clearly define expected outcomes, and the contingency you use must link the outcome with a consequent event that will achieve the anticipated effect on the behavior. With this in mind, consider the major difference between positive and negative reinforcement: use of the contingency and the reinforcer. During negative reinforcement, the *withdrawal or discontinuance* of an unpleasant *or* aversive consequence increases the trainee's performance. When you note an increase in performance after withdrawing the consequence, you will know that negative reinforcement has occurred.

Although negative reinforcement is frequently considered an undesirable method of changing trainee behavior because it deals directly with unpleasant or aversive events, you do need to recognize its role in everyday work situations. When a person begins working as a supervisor approaches, negative reinforcement probably has been in effect in the recent past. The worker has learned to increase output of work or to look busy to avoid unpleasant events such as negative comments by the supervisors, such as "get busy." Repeated requests to improve the quality or quantity of work can produce similar patterns of

performance as workers improve their performance to reduce the frequency of such comments in the future. While no one enjoys being under the influence of aversive contingencies, you as a trainer must consider their effects in supervisor-worker relations. Some supervisors may, for example, expect such responsiveness from employees, especially when positive reinforcement is an uncommon supervisory practice at the placement. Although this may be a problem for the vocational placement program, you may wish to consider the importance of helping the trainee to develop such survival skills as responding within 30 seconds to instructions requiring immediate compliance and learning new tasks when a supervisor provides a model. These and other survival skills are discussed in chapter 5.

Extinction and Punishment

Extinction and punishment effects are opposite to those of positive and negative reinforcement. Extinction and punishment describe how behaviors decrease, rather than increase. Extinction occurs when a previously reinforced response ceases to produce reinforcing consequences, and, as a result, decreases to prereinforcement levels. A trainee whose inappropriate behavior is a function of the attention it produces discontinues that behavior when the supervisor no longer attends. This ignoring of inappropriate attention-seeking behaviors is the most frequent application of the extinction principle. When the trainee behaves inappropriately, you ignore the behavior by acting as if it never occurred. This procedure is effective when the inappropriate behaviors are reinforced by social consequences. However, not all inappropriate behaviors are affected by extinction procedures. Some behaviors are maintained at high levels in the absence of social influence, while others are maintained by environmental influences that are impossible to identify and eliminate. For these situations you might consider employing a punishment procedure.

Although punishment also functions to decrease and/or eliminate behaviors, the process is different from extinction. In punishment there is a contingent relationship between the behavior and the presentation or *withdrawal* of a negative or

positive event. During positive punishment, the presentation of an aversive stimulus (a negative reinforcer) is contingent upon a behavior; during negative punishment, the *withdrawal* of a desirable event (a positive reinforcer) is contingent upon a behavior. Both procedures decrease a behavior. Behaviors are *punished* or *reinforced* to decrease or increase response rates, respectively.

Management tactics derived from positive punishment include: verbal reprimands, physical reprimands, restraint, overcorrection, and aversive stimulation. A verbal reprimand is any comment given immediately after a behavior that decreases the frequency of that behavior in the future. When the trainee strikes a fellow worker, you say, "No, don't hit!" with the expectation that hitting others (the behavior) will decrease on future occasions. A physical reprimand is any physical contact made immediately after a behavior which decreases that behavior in the future. A trainee who frequently sticks her finger in her mouth prompts you to physically reprimand her by firmly placing her hands down to her sides. Restraint procedures commence with the onset of a behavior and prevent the behavior from continuing. You prevent the trainee in the act of striking a fellow worker by holding the striking hand. You may restrain the trainee on subsequent occasions by physically separating her from fellow workers following the onset of an inappropriate behavior. Overcorrection, or positive *practice*, as it is sometimes called, is the process of having a trainee repeat a correction procedure immediately following each inappropriate response. Here a trainee who throws objects and messes up the job site would be required to complete a correction routine that might involve picking up all objects on the floor in that room, as well as emptying all trash cans in the building and picking up other papers on the floor and other debris on the grounds. This consequence overcompensates for the inappropriate behavior. Overcorrection procedures have been successful in reducing and eliminating stereotypic behaviors of many mentally retarded persons (Rusch, Close, Hops, & Agosta, 1976; Rusch & Close, 1977). During the correction routines, you physically guide or move the trainee's hands and arms in movements that are incompatible with the undesirable responses. Finally, during

aversive stimulation, there is an aversive consequence such as physically slapping the trainee following his inappropriate behavior. This procedure is prohibited, except in special cases where all other options have failed and where the inappropriate behavior threatens the trainees/trainers' health and well-being.

To review, positive punishment is the presentation of an event or stimulus; negative punishment is the *withdrawal* or the discontinuance of an event contingent upon an inappropriate or undesirable behavior. At this point, it is easy to confuse negative punishment with extinction since both discontinue positive reinforcement. An important distinction is that during negative punishment, the reinforcers discontinued are not the ones that maintained the behavior. When a trainee prefers to bother others rather than work, leaves her work station at inappropriate times, and returns late from scheduled breaks, the consequence may be loss of privileges, tokens, or money. Although these reinforcers had little relation to the original problem behavior, withholding them may decrease inappropriate response levels.

Response cost and time *out* are two punishment procedures that might prove useful in managing behavior. To establish response cost contingencies, again give careful attention to behavioral definitions, the contingency statements, and validated consequences. Withholding a privilege will not be effective when the trainee does not understand what behavior (response) is being punished. Confusion also occurs when you wait too long after the behavior to deliver the consequences. Also, response cost procedures will not be effective if the consequences you remove are not valued by the trainee. If you discontinue free time activities for inappropriate behavior, the trainee should prefer those activities to not getting along with others at the work station. If you take away tokens or money, she should have demonstrated willingness to work on tasks that produce money or tokens. Finally, the events you withhold must initially be present at sufficient levels for the trainee to experience the cost of an inappropriate behavior. Discontinuing a reinforcing event has little effect when previously reinforced at very low levels prior to the response cost interventions. Remember, reinforcer-poor trainees are less affected by response cost procedures than reinforcer-rich trainees.

Another negative punishment procedure is time out from positive reinforcement. By removing the trainee from situations that allow for frequent contacts with supervisors and co-workers or by discontinuing interactions with the trainee for a brief period, you can, in effect, remove some events that are reinforcing. This method is, of course, less precise than response cost procedures which allow you to withhold a single reinforcer. You can use time out from positive reinforcement when you do not know which social event, if withheld, will reduce the undesirable behavior. Hence, you manipulate several consequences in an effort to reduce behavior.

CONCEPT REVIEW

Principles for Behavior Management

1. Reinforcement
 - a. positive reinforcement
 - b. negative reinforcement
2. Extinction (no consequences)
3. Punishment
 - Positive punishment
 - a. verbal reprimands
 - b. physical reprimands
 - c. restraint
 - d. overcorrection
 - e. aversive stimulation
 - Negative punishment
 - a. response cost
 - b. time out

Response Maintenance

Once the trainee has learned a new skill or reduced an inappropriate behavior, turn your attention to maintaining those behaviors at desirable levels as you change your management procedures to match conditions of the targeted placement. A trainee who works continuously and productively for 1 to 2 hours when you are present and observing must learn to work at that level when supervisory contacts are less frequent or non-existent. The trainee who works productively when you provide tangible and immediate rewards for each completed task must

learn to work for a paycheck delivered weekly, biweekly, or monthly. Further, trainees who decrease their inappropriate behaviors as a result of a time-out procedure must maintain those acceptable levels as conditions change to the occasional verbal reprimand found in many placement settings.

During maintenance programs, schedule and generalize consequences to effect a smooth transition from procedures that are necessary to establish control to those that maintain control in job settings. The scheduling of programs involves the gradual approximation of reinforcement schedules that exist on the job, where the delivery of consequences is not immediate. Your goal is to establish reinforcers and/or punishers that will be effective with as many of your trainees as possible and will at the same time be as normative as possible. The consequences that are effective during training and management must be compatible to the conditions of the targeted job. Although a time-out procedure may be used to reduce a severely disruptive behavior during the initial phases of a training program, this method may be unacceptable on the job. If the only means of controlling inappropriate behaviors is through such a procedure, the trainee is not ready for job placement. To prepare for placement, then, you need to maintain behavioral gains as you change consequent strategies to more acceptable methods. This requires the development of socially acceptable generalized reinforcers and punishers such as praise, money, verbal reprimands, and contingency statements.

CONSEQUENCE SCHEDULING. There are two types of schedules for delivering consequences during a maintenance program: continuous and intermittent. In a continuous schedule every behavior produces a consequence; in an intermittent schedule some behaviors produce consequences, while others do not. This distinction is important when establishing a new response or accelerating or maintaining an existing one. While continuous schedules are necessary to develop a new behavior, intermittent schedules actually increase and maintain those behaviors over time. In fact, some intermittent schedules produce higher behavior rates than others. These differences have a direct application to vocational training.

Continuous Schedules. Most new training programs begin with a continuous schedule. During new management

programs, it is essential that the trainee learn the contingency between his behavior and its consequence. This is important since other consequences which accidentally coincide with the specified consequence may also be reinforcing or punishing. This may impede the trainee's learning the relationship between the targeted behavior and the consequence you *are* delivering. Continuous schedules facilitate learning as the consequence you deliver always follows the targeted behavior. Competing reinforcers or punishers accidentally occurring have a lesser effect over time as the trainee comes under the exclusive control of the consequences you deliver. Sometimes consistency is defined in terms of a continuous schedule. This is not completely accurate; rather, consistency is reliably delivering consequences according to a predetermined individual program plan. However, during continuous scheduling, inconsistency is more noticeable and the effects are more serious than they would be during intermittent reinforcement. When you occasionally forget to praise during continuous reinforcement, the result may be that it takes more time for the new response to be learned or an inappropriate behavior to be managed.

Intermittent Schedules. Once the trainee has learned a new skill or reduced an inappropriate behavior, you need to consider the use of an intermittent schedule to increase, decrease, or maintain these new behaviors. To increase production rates, for example, you need to know about the effects of different reinforcement schedules. There are four schedules of intermittent reinforcement: two based upon the number of behaviors and two based upon the amount of elapsed time. The behavior-based schedules are *ratios* between the number of behaviors the trainee makes and the reinforcers you deliver. In the *fixed ratio (FR)* schedule you reinforce the trainee for behaving a fixed number of times. For example, during FR 2, you would reinforce the trainee after two responses; for an FR 4, after every four, and so on. During a variable ratio (VR) schedule, you reinforce on *the average* of every 2 responses for a VR 2, every four responses for a VR 4 schedule, and so on. The actual deliveries vary randomly. For a VR 4, for example, you may reinforce after every third, fourth, and fifth response. While the average is one reinforcer for every fourth response, delivery varies between three and five.

For the time-based schedules you provide reinforcement after a fixed or variable period of time. During a fixed *interval* of 5 minutes (FI 5), you reinforce the first response after the 5-minute interval. During a *variable interval* of 5 minutes (VI 5), reinforcement occurs after an average of every 5 minutes. These schedules are useful when your objective is to increase and stabilize production rates. For example, ratio schedules generally produce higher production rates than interval schedules, while variable schedules produce more stable rates than the fixed schedules, which usually involve a period of inactivity following each reinforcement. Combining these dimensions, as in the variable-ratio schedule, you obtain high and stable rates. In the fixed-interval schedule you will get low and variable performance rates.

As these findings suggest, intermittent schedules should play an important role in any program designed to train and maintain skills and behaviors across settings and time. Instead of reinforcing every product completed through training, you can gradually introduce an intermittent schedule so that there is a smooth transition to the conditions of the targeted placement. When the change is too sudden and the ratio between work and rewards too lean in comparison with previous schedules, the trainee may become unproductive. This can be avoided by gradually altering ratios from 1 to 1 (continuous) to 2 to 1, 3 to 1, and so on.

Although research findings indicate that the variable ratio schedules produce the most productive and consistent performance, it is important to recognize that this type of piecemeal pay may not be present on jobs using fixed interval schedules of payment. Here, reinforcers (money) may be dependent upon the amount of time worked rather than the number of products the trainee completed. In addition, wages earned hourly are delivered weekly, biweekly, or monthly, which is in sharp contrast to the immediate delivery systems that will maximize performance. In a maintenance program, then, attempt to establish desirable levels of performance and then alter reinforcement schedules to approximate those on the job. As you program these changes, reinforcement should gradually

change from a ratio to an interval schedule, with reward deliveries becoming less immediate over time (Rusch, Connis, & Sowers, 1979).

GENERALIZATION OF CONSEQUENCES. Equal in importance to the delivery of a reinforcer is, of course, the reinforcer itself. Above all else, the trainee must be motivated by the rewards available on the job that influence the behavior and productivity of fellow workers. She must be responsive to monetary and social rewards as well as to the systems through which these are delivered. Money, verbal praise, and criticism (negative feedback) are the generalized reinforcers and punishers supervisors typically use to alter and maintain worker behavior. Regardless of the task to be completed, the supervisor on duty and the method of delivery of praise, criticism, and money contingent upon work completed should influence production and behavior in predictable ways. Maintenance of desirable levels of responding across tasks, managers, and settings requires trainee responsiveness to these generalized events.

To establish an effective maintenance program, you must develop generalized reinforcers. If a trainee works only for food, you should train him to associate delivery of coins for work with the food and the exchange of those coins for food. At first you provide immediate exchanges to facilitate the association between coins and food (i.e., coins produce food). Once this relationship is evident, you can increase the interval between the coin deliveries and the food exchanges until they occur at the end of the session, work day, week, and so on. Use a similar system to establish a relationship between piecemeal pay and interval payments, such as paychecks at the end of the month.

Establishing a social praise as a generalized reinforcer or verbal reprimands as a generalized punisher is less complex since you only need to associate praise and an established reinforcer (or the reprimand with an established punisher). You can then gradually change the delivery of the generalized consequence to deliveries approximating those on the targeted job. The original reinforcer (specific qualitative feedback on the completed products) serves as a backup for the generalized consequence (i.e., social praise or verbal reprimands). Once

praise and reprimands are established generalized reinforcers and generalized punishers, you can then begin using these consequences on other tasks.

SUMMARY

It should be pointed out that training and management procedures rarely, if ever, occur in isolation from each other. When training a person to perform a new skill, you try to motivate her to perform as well as she can, and when instituting a new behavioral control program, you need to facilitate learning of this new contingency. The interaction between the trainee's ability and willingness to perform is always a concern. In one case the trainee may be willing but unable since she does not know what is expected or how to proceed. In another case the trainee may understand and have necessary skills but be unwilling to act. The dilemma is: do you intervene and facilitate learning by altering antecedent events or do you increase motivation by rearranging consequent events? Frequently, you must do both. You need to analyze each new problem in terms of the essential components of the instructional processes, beginning with an assessment of the effects of different antecedent and consequent event arrangements and ending with an intervention that, hopefully, will alter the direction of the trainee's progress. Each decision to select an antecedent arrangement requires a corresponding decision about a consequent strategy. When employing a shaping procedure, for example, you must decide to use one, all, or some combination of the procedures derived from the principles of reinforcement, extinction, punishment, or maintenance. Similarly, with decisions on a consequent strategy, you must specify the antecedent arrangements that facilitate the learning of the new management contingency.

Whatever your decision, you select strategies to increase a trainee's progress toward vocational competence. You base these selections on the assumption that if previous efforts fail, there is a strategy you have yet to identify that will be successful. The job is to select, implement, and evaluate that strategy. In the next chapter methods to evaluate the effectiveness of these decisions will be discussed.

3

Evaluation of Progress

Successful vocational training requires accurately determining the effect alternative training and management strategies have on vocational behavior. A behavior analytic approach requires you to identify and implement training strategies when beginning, as well as while monitoring progress toward preestablished goals and objectives. The behavioral descriptions for determining where to begin are summative assessments. Those descriptions that monitor progress toward objectives are *formative* assessments. Both descriptions require you to collect data on trainee behavior. The summative assessment includes data on a wide range of behaviors and patterns of behaving. It provides a comprehensive description of the trainee's abilities. Summative assessments often include perusal of past trainee evaluations generally located in the trainee's file. These evaluations may include recent intelligence test scores, prior education, and familial history. The formative assessment, on the other hand, consists of data on specific behaviors or on classes of behaviors, providing an in-depth view of skills in a single area. Formative assessments require you to quantify behavior and *repeatedly* assess that behavior. Remember that this assessment is one of the essential characteristics of a behavior analytic approach outlined in chapter 1. In combination, summative and formative assessments allow conclusions about overall training program effectiveness, in general, and individual gains, in particular.

This chapter reviews the summative and formative assessments necessary for successful vocational planning and training. Following a brief overview of the summative assessment, a more detailed overview of the formative assessment is made. Defining and measuring *behavioral outcomes* focuses on

the development of formative assessment procedures. Such topics as event-based and time-based measures and collecting, recording, and displaying data are covered. The last section of this chapter, evaluation, reviews the baseline-treatment, reversal, and multiple-baseline designs that can be employed to provide convincing evidence of training effectiveness. In summary, this chapter focuses upon the analysis of an individual's vocational behavior, a necessary characteristic of a behavior analytic approach to vocational training.

COMPARISON OF THE SUMMATIVE AND FORMATIVE ASSESSMENT

You begin the summative assessment by gathering existing data on the trainee's medical, educational, psychological, social, and vocational evaluations. Although of limited immediate value in developing specific training and management objectives, this information will alert you to areas critical to the trainee's health and well-being. It may also indicate areas in need of further evaluation. Next, you must determine what behaviors the trainee should learn or manage to prepare for job placement. This step requires adequate information on the skills and behavior patterns that are expected on the job. (This particular subject is thoroughly addressed in Section 3 of this text.) Finally, you analyze assessment outcomes to determine the skills and behaviors most in need of training and/or modification. Ideally, all assessed areas indicating a deficiency receive training. However, limitations in time, money, and energy force you to identify areas most in need of remediation. This requires a judgment about how much progress can be expected in the time available, as well as the skills and behavior patterns most important for job placement.

Before developing the summative assessment, analyze the targeted placement to determine requisite skills and behaviors (see chapter 7). For jobs in the food services industry you should gather information on each position, e.g., bussing, dishwashing, food preparation, cooking, and serving. This would include data on the tasks to be completed, the interactions expected with the employer, supervisors, coworkers, and customers, as well as the importance of specific work habits

such as attendance, endurance, continuous work, production rate, accuracy, and personal hygiene. This information determines what to assess and, correspondingly, what objectives will guide the trainee's individual training program.

Mithaug and Hagmeier (1978) employed this approach to specify the training needs of severely and profoundly mentally retarded persons preparing for sheltered employment. They surveyed supervisors for workshops in five northwestern states to determine the requirements for entrance into sheltered employment. To confirm the reliability of findings across states, Johnson and Mithaug (1978) compared these results with data generated in a survey of Kansas workshops. The combined data were then used to develop the *Prevocational Assessment and Curriculum Guide* (PACG) (Mithaug, Mar, & Stewart, 1978), which includes items that 85% or more of the survey respondents considered important for entrance into sheltered employment. Mithaug, Mar, and Stewart (1978) noted that this summative assessment instrument is designed to:

1. Assess and identify the prevocational training needs of handicapped persons.
2. Analyze behavior and skill deficits in terms of sheltered employment expectations.
3. Prescribe training goals designed to reduce identified deficits ...
4. Evaluate performance by administering the instrument at the beginning of training in order to define appropriate goal areas and then periodically after training has commenced to determine progress toward training goals, (p. 2)

It consists of an inventory, a curriculum guide, and a profile sheet. The inventory assesses the trainee's working behaviors (attendance, endurance, independence, production, and learning behavior), interaction skills (communication and social skills), and self-help skills (grooming/eating and toileting skills). For each identified deficit in the inventory, there is a corresponding goal statement listed in the curriculum guide, including 40 goals for the five worker behavior categories, 21 for the two interaction skills categories, and 13 for the two self-help skills

categories. Finally, the assessment results appear on the summary profile sheet which graphically displays trainee progress toward workshop entrance requirements. The same profile in Figure 3.1 displays Sally Jones' assessment results for 9/5/77, when instruction commenced, and 6/30/78, after 9 months of training. As you can see, Sally is well below workshop level in all categories. In addition, her greatest deficits are in independence, behavior, and grooming/eating skills. Although there was improvement following the 9 months of training, some categories demonstrated greater change than others, e.g., learning and toileting as contrasted with grooming/eating skills, which showed no improvement.

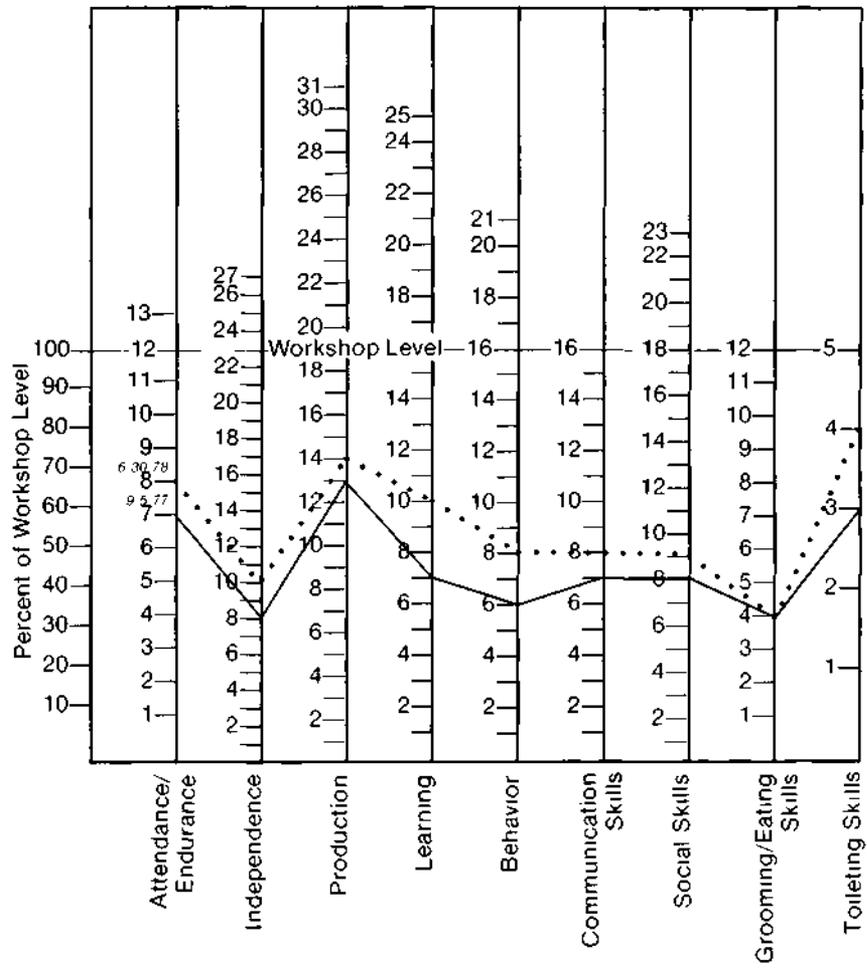
The PACG illustrates the use of the summative assessment to identify trainee deficits, prescribe training goals, and evaluate progress toward those outcomes. Formative assessments complement these evaluations by providing the data necessary to monitor progress toward short-term objectives. The difference between summative and formative assessments includes specificity as well. The summative assessment generates program goals, which are then made up of several training objectives. In the PACG, for example, the independence goal consists of 11 instructional objectives, and progress toward this goal occurs when trainees demonstrate competence on each objective. Another difference is that a summative assessment usually consists of checklists indicating the presence or absence of a behavior. Formative assessments, on the other hand, may consist of a variety of measures, depending upon the type of instructional objectives evaluated. Some may require a checklist similar to that used in the summative assessment, while others require trials to criterion, training time, percent correct, or performance-production rate measures. Finally, there are differences in how frequently you must administer these assessments. You may schedule the summative assessment twice a year, but you should conduct formative assessments as frequently as possible, preferably daily, if you are going to monitor progress effectively.

DEVELOPMENT OF THE FORMATIVE ASSESSMENT

To develop the formative assessment, first specify a

FIGURE 3.1 PACG SUMMARY PROFILE SHEET

Name Sally Jones Birthdate 8/11/62
 Teacher Ms. Brooks Evaluation 9/5/77
 Dates 6/30/78



Reprinted by permission, from Dennis E. Mithaug, Deanna Mar, and Jeffrey E. Stewart, *Prevocational Assessment and Curriculum Guide* (Exceptional Education, Seattle, 1978).

behavioral outcome. This is necessary because the formative measure is a function of the type of outcome you expect. Remember, a clearly defined behavioral outcome will facilitate selection of a measure which is responsive to that outcome. This selection is important because some measures do not provide the information you need to evaluate progress. Calculating the trainee's rate of tying his apron tells you very little about the effectiveness of his apron-tying skills, especially when that activity occurs once each day. The important correspondence between the behavior and measure may be absent here. When monitoring the trainee's progress in controlling inappropriate behavior, you use one measure, and when monitoring improvement in her attendance, yet another measure.

Defining Behavioral Objectives (Outcomes)

Your expectations for improvement in trainee skills and behavior become objectives when you specify in writing the trainee's name, the observable outcomes (objectives), conditions under which they will occur, criterion for success, and date the objectives will be accomplished. These elements will guide the development and evaluation of the trainee's program as trainers, support staff, placement personnel, and the trainee's parents/guardians agree upon the direction, content, and definition of a successful training effort. (Chapter 4 further details the development and use of behavioral objectives.)

Including the trainee's name in the behavioral objective assures that the focus will be on his behavior rather than yours or some other trainer's. Too often objectives consist of descriptions of what trainers will do, only to produce a confusing interpretation of trainee and trainer performance. All of your expectations should be specified in terms of what the trainee will be able to do at the end of training.

The second element is the observable *outcome*, which must be a response that is observable, repeatable, and measurable. Behaviors, task units, and products described in chapter 2 fulfill these requirements.

For the third element you must specify the conditions under which the behavior will occur, such as when the trainee enters the training program at 8:00 a.m., she will punch her time card. When you say, "please work," the trainee will pick up the

tools and task materials and begin task-related movements. When the fire alarm sounds, the trainee will discontinue working and walk out of the building. Contingency phrases beginning with when or if typically define the conditions of expected performance.

The fourth requirement, criterion for success, is a standard that trainers, managers, and the trainee's parents agree will define successful performance. Upon entering the training program at 8:00 a.m., John will punch his time card *without* prompting from *the* supervisor for 5 consecutive days. The first few training sessions may begin with your prompting the trainee every morning to punch his card upon arrival. During subsequent weeks, his independence increases, however, and on most days he requires no reminders. You consider the skill learned when he independently punches his card on 5 consecutive mornings. At that point you specify a new objective, possibly to maintain independent performance over a longer period of time.

The fifth and final requirement is the target date you set for the trainee's accomplishing the outcome (behavior). Frequently, this is understood to be the calendar year or the length of a normal training period. This usually needs clarification, however, since objectives of different trainees will require varying times to achieve. Furthermore, including target dates allows you to evaluate program efficiency and make compensatory adjustments. When a trainee fails to acquire skills by the projected date, you may wish to reallocate training resources to accelerate progress, or if this is not possible, revise the target date for placement.

CONCEPT REVIEW

Components of a Behavioral Objective (Outcome)

1. Trainee's name
2. Observable objective (outcome)
3. Conditions
4. Criterion for success
5. Target date

Measuring Behavioral Objectives (Outcomes)

When your expectations are in terms of a behavioral objective (outcome), measuring performance constitutes an assessment of progress toward achieving it. This assumes that the measure reflects the critical outcome of the behavior. When the outcome involves time, such as when the trainee must work faster, the measure accounts for how long it takes to complete a task. A critical outcome of accuracy calls for a measure that takes into account correct and incorrect responses. When the critical outcome is the presence or absence of a behavior, the measure reflects this either/or status of the response. A critical outcome of response level requires a measure focusing upon response frequency, as when you record how many times per day the trainee completes an assigned task.

The various measures reflecting changes defined in the behavioral objective include checklists, trials to criterion, frequency or counts, percent, training time, duration, latency, and rate. Though not exclusive, this list includes nearly all the measures you will need to monitor trainee progress during vocational training. Four measures are event based, since they reflect variations in the frequency of different events; three are time based to depict variations in the amount of time required for an event; and one measure is event and time based.

EVENT-BASED MEASURES. When time is not critical, use the checklist, trials to criterion, behavior counts (frequency), or percent correct measures. The checklist monitors the presence or absence of an event by simply indicating, for example, whether John arrived at work on time, washed his hands after using the restroom, began work without prompting, and changed tasks on schedule. Yes/no records show the presence or absence of the desired behavior during scheduled observation periods. The sheets for collecting these data typically have the behaviors to be observed in a column to the left and a series of columns from left to right that allow you to record each observation with +, indicating the behavior's presence, or -, indicating its absence. See Figure 4.5 in chapter 4 for a sample grooming checklist.

Another yes/no measure is *trials to criterion*. In addition to recording the presence or absence of the behavior, this measure allows you to indicate the number of trials required to reach criterion. This information is useful in determining the effectiveness of a training procedure. When measuring the trainee's progress on a 15-step assembly task, for example, record the total number of trials required to train each step. A trial can be expressed in terms of session time or the behaviors involved in completing a step. In either case count the total number of trials required to reach criterion for that step. Steps taking several trials indicate that you need to alter procedures, for example, by breaking the step into smaller components, or rearranging consequences to increase motivation to perform.

A third event-based measure is the frequency or count. You typically use this measure when you need to know that the behavior did or did not occur. For example, you may be monitoring inappropriate behaviors during fixed time intervals, such as during the 2 hours that precede lunch and the 2 hours after lunch. Frequency measures provide this sensitive accounting of response variability that allows you to monitor the effects of different intervention strategies. During the 2 hours before lunch, you may find considerable variation across days when compared to the frequency of inappropriate behaviors occurring after lunch.

A fourth event-based measure combining features of the frequency and trials to criterion measures is *percent correct*. To use this measure, define which responses are correct and which are incorrect. Then count, record, and calculate the final results by dividing the number of correct responses by the total number of correct and incorrect responses (total responses) and multiplying by 100. Percent correct is useful when you need accuracy data to evaluate the quality of the trainee's work. Evaluate all responses and products as some proportion of 100 percent. To conduct quality-control checks on completed products, divide the number of correctly completed tasks by the total number worked and multiply by 100. If the result is within the range you consider acceptable (e.g., 95% to 100%), no intervention or re-training may be necessary.

CONCEPT REVIEW

Event-Based Measures

1. Checklist
2. Trials to criterion
3. Frequency or count
4. Percent correct

TIME-BASED MEASURES. When the variable in the objective is time, you can consider a time-based measure. Training time is a measure of how long it takes for the trainee to learn a behavior, skill, or task. Duration measures the time it takes to complete a response, and Latency is the interval between your instructional cue and the trainee's response. These measures usually indicate progress when timings decrease across observations. Since each measure focuses upon a different aspect of the response-time relationship, you must determine which one to use where. You can use training time, for example, to monitor the trainee's transfer of skills from one task to another. As training time to criteria decreases for each new task, positive transfer is indicated. You can use duration to monitor behaviors such as tantrums, with progress indicated when successive episodes become shorter in duration.

Finally, latency measures are useful in monitoring compliance; progress is similarly indicated as the time interval becomes shorter between your request and the trainee's cooperative response. Sometimes these measures will require that you use stopwatches and other timing devices. You may be reluctant to develop an elaborate recording system, especially when the demands are considerable on your time. However, you should at least acquaint yourself with the various procedures.

CONCEPT REVIEW

Time-Based Measures

1. Training time
2. Duration
3. Latency

EVENT- AND TIME-BASED MEASURE. When events and time vary—for example, when the trainee completes varying numbers of products during different work periods—you should consider using rate. *Rate* is the number of completed products (or responses) divided by the length of the work period (time). When you compare the trainee's production with the rate of an average worker, you can determine her readiness for placement. You can also derive a percentage for this comparison. If the average industrial worker's rate is 4 per minute and the trainee's rate is 2 per minute, the comparison percentage is $2 \text{ per minute} / 4 \text{ per minute} \times 100$, or 50%. Sometimes referred to as an industrial *norm*, these data are useful measures when you are considering objectives that specify a percent of the production criterion. For example, when working a flour sifter assembly task during a 1-hour session (condition), Mary (trainee) will increase her task completion rate (behavior) to 75% of the average adult rate for 5 consecutive sessions (criterion) by June 1, 1979 (target date). By comparing Mary's rate between June 1 and June 5 with that of an average worker according to the formula $\text{trainee rate} / \text{average worker rate} \times 100$, you can obtain her progress toward the criterion of 75%.

Collecting Data

Once you specify objectives and select a measure, you must decide what to observe, how to record, and how to analyze and display the data.

WHAT TO OBSERVE. Again, your decisions about what to observe are determined by the specified expected outcomes, i.e., behavioral objectives. These outcomes must be observable, meaning that two or more persons sharing a common definition of the behavior or behavioral product agree on its occurrence during an actual observation. They must contain movement to indicate when the outcome has occurred, for example, when the trainee moves the parts of a task during a task assembly. Finally, outcomes must have an observable beginning and ending, as in the definitions of behaviors, task units, and production cycles described in chapter 2.

WHEN TO OBSERVE. Your decision about when and how much to observe will affect the type of data recording system

you develop. In general, you should collect data as regularly and frequently as possible. Although frequent observations will not guarantee an accurate evaluation, they will help you prevent failure by indicating the need to intervene with a more effective training or management procedure when necessary. Because of this factor, it is best to collect data on target behaviors *at least once* each day when the trainee has an opportunity to perform. If John worked a flour sifter assembly task on Monday, Wednesday, and Friday, you would collect data 3 days each week, and if he worked a pulley assembly task Monday through Friday, you would collect data on that task every day of the work week.

Deciding about how much data to collect on a given day is more difficult because much depends upon the nature of the behavior being observed. Ideally, you would collect data continuously through the entire period of performance. If John works the flour sifter task during 1-hour sessions, your observations would occur throughout these 60-minute periods. Typically, this is not possible since most trainers must attend to the instructional needs of many individuals at the same time. To accommodate several trainees at once, you can collect data on a sample of trainee performance by recording responses or products during selected intervals. First, decide how large a sample to take and where in the session to observe (i.e., in the beginning, middle, or end). Again, refer to the objective. If the purpose is to train a new skill, an accuracy sample near the end of the session is adequate. On the other hand, if you are interested in skill maintenance from one day to the next, select a sample at the beginning of each new session. For endurance objectives requiring data on a trainee's productivity over extended periods, use a different strategy, one that systematically samples different intervals at random. With behavioral objectives devoted to decreasing inappropriate behaviors, make sure that your observations include morning, mid-day, and afternoon samples so that you can assess treatment effects throughout the work day.

HOW TO RECORD. To collect data using an interval recording method, record each observation of the trainee's target behavior during the time frame, for example, when a trainee

leaves his chair. For every out-of-seat you might make a tally mark on a sheet of paper. At the end of the observation period you would add up all the tallies to summarize out-of-seat behavior for that session, repeating the process for each new observation period. When the trainee exhibits a new problem behavior, such as inappropriate contacts with fellow workers, begin a new set of tallies. Also, with each additional behavior begin a separate tally and session total. This task can become complex if you use separate data sheets for each behavior and session. To simplify the process and expand your data collection capabilities, employ a multipurpose data sheet such as that illustrated in Figure 3.2 which lists behaviors down the row in the left column and session number or date from left to right in the right column. In the example there were three out-of-seats on 1/4/79, four on 1/5, two on 1/6, three on 1/7, and five on 1/10. At the same time, there were recordings on inappropriate verbal contacts, direction-following behaviors, and production rates. This behavior-by-session (date) format provides you flexibility in recording different outcomes on the same form. However, to observe a different trainee, you need to use a new data sheet or a different notation for each trainee, such as a slash or a zero.

For some outcomes you will need a more efficient system. Making a mark on a data sheet usually requires that you discontinue instruction. This may be distracting and disruptive both to you and the trainee. With a double-bank mechanical counter you simply press a button or switch to record an observation. The counter cumulates the recordings with each

FIGURE 3.2 MULTIPURPOSE DATA SHEET

Behavior	1/4/79	1/5/79	1/6/79	1/7/79	1/10/79
Out-of-seat	///	////	//	///	////
Inappropriate verbal contacts	//	///	//	/	//
Direction following	////	////	///	//	///
Production rate	5/min.	4/min.	5/min.	6/min.	7/min.

press, so the total after the last press is the summary for that session. Although the counter is usually employed to count 1 or 2 outcomes, for example, as either correct or incorrect, you may record as many as 8-10 separate behaviors during the same session by using four or five mechanical counters assigned to different trainees.

Summarizing and Displaying Data

Too often data are not summarized and, therefore, never function to promote data-based decisions. Although the data sheets give you immediate feedback on the day's session, they do not allow you to compare with previous days or weeks to establish a trend in trainee performance across sessions. For this you need to list on a single sheet summary scores for all sessions and their dates. This provides continuity with past performance by linking data from beginning sessions with data collected during recent ones. The sample data sheet shown in Figure 3.3 summarizes several sessions on a single sheet. The left column indicates session dates, and the remaining columns list the data summaries for different behaviors.

The final step in your evaluation is the data display. Although sometimes you can make data-based decisions from the summary sheet alone, data displays will enhance your ability to see trends in trainee performance over time. The y, or vertical axis, represents the trainee's behavioral measures (e.g.,

FIGURE 3.3 SUMMARY DATA SHEET

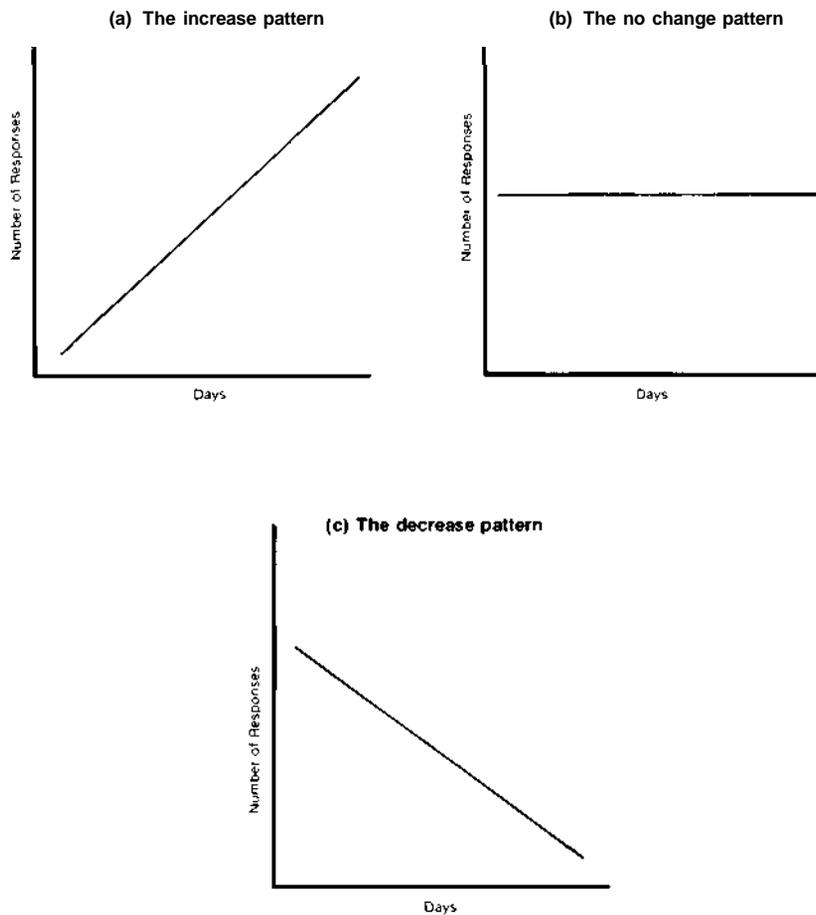
BEHAVIOR				
Date	Out-of-Area	Inappropriate Verbal Contacts	Direction Following	Production Rate
1/4/79	3	2	4	5/min.
1/5/79	4	3	4	4/min
1/6/79	2	2	3	5/mm
1/7/79	3	1	2	6/min
1/10/79	5	2	3	7/min

frequency, rate, count), and the x, or horizontal axis, represents time, as measured by session number, trials, days, weeks, or a related dimension.

When observing graphic displays depicting the trainee's performances, look for three patterns: the increase, the no change, and the decrease. Each of these three patterns represents a trend. The graphs in Figure 3.4 illustrate each of these three patterns, or trends. Note behavioral frequencies are recorded on a vertical axis and session days on the horizontal axis.

By referring to the behavioral objective, you can make conclusions about the trainee performance in terms of a trend.

FIGURE 3.4 PERFORMANCE PATTERNS (TRENDS)



Note the trends shown in Table 3.1. That table summarizes the relationships between trainee performance and different objectives, with objectives indicated in the first column and performance trends for them indicated in the other columns. Note that + means progress toward the objective, 0 means no progress, and - means a reversal from the desired trend.

Referring to Figure 3.4 and Table 3.1, when the objective specifies an increase in response levels, Chart A indicates progress, Chart B shows no progress, and Chart C indicates a loss or reverse from the desired outcome. If your objective is to maintain a behavior, Chart A represents a bonus effect as behavior increases, Chart B indicates maintenance, and Chart C indicates lack of progress. Finally, if you are trying to *decrease* a trainee's behaviors, Chart A indicates a reversal from the desired trend, Chart B shows no progress, and Chart C indicates the desired pattern.

You need to make date-based decisions by comparing the trends which appear in trainee performance with the expectations in the objective.

TRAINEE AND PROGRAM EVALUATIONS

To complete a vocational evaluation, you must assess trainee progress and also determine program effectiveness. Although trainee progress usually indicates which programs are effective, sometimes this relationship is not clear. You can

TABLE 3.1 RELATIONSHIPS BETWEEN EXPECTED OUTCOMES AND TRAINEE PERFORMANCE (TRAINEE'S BEHAVIORAL TREND)

<u>Behavioral Objective</u>	<u>Increase (Chart A)</u>	<u>No Change (Chart B)</u>	<u>Decrease (Chart C)</u>
To increase	+	0	-
To maintain	+	+	-
To decrease	-	0	+

- + Progress toward objective
- 0 No progress toward objective
- Reversal from desired trend

always determine if the trainee is progressing by simply comparing her performance with the behavioral objectives. However, you may not know exactly what feature of your program produced this effect. Of course, when the trainee's success or failure occurs only during training activity, progress and effectiveness are synonymous. Trainee success indicates program success, and failure indicates program failure. Usually, however, this correspondence between trainee performance and program effectiveness is vague because any one of a number of procedures may be responsible for the observed outcomes. Comparing trend data with behavioral expectations does not indicate what aspects of your training procedures are successful and worth replicating. Unfortunately, you do need this information to improve vocational programming. You must specify the component tactics that are effective and identify and discard those that are redundant and/or ineffective. The evaluation designs that will provide the needed information are the baseline-intervention strategy, reversal design, and multiple-baseline design.

Using the Baseline-Intervention Strategy

A very useful design, the baseline-intervention strategy includes a baseline Condition A (Figure 3.5), usually the first procedure you use to begin training, and an intervention Condition B which you implement when the trainee's performance does not progress as expected. To increase production rate, you might begin by providing praise immediately following each completed product. During this praise period, you record the number of products completed each hour. Upon reviewing trainee performance for a 10-day period as depicted in Figure 3.5, you note a no change trend since the trainee produced as many tasks during the first 5 days as in the last 5. Therefore, you need to add a procedure to the one being tried or replace the baseline training procedure with an entirely separate procedure. Adding a procedure to an existing one may consist of adding tokens to praise for completed products. When changing the baseline procedure to a second, separate training procedure, you might replace praise for completed work with verbal admonishments for work not completed. In either example, you may, after

10 days of additional training, observe an increase trend such as that illustrated in Figure 3.6. The increase in production rate following the intervention suggests that contingent delivery of praise plus tokens for completed products was effective in comparison to praise alone (the baseline procedure). Note that at least two conditions (baseline and intervention) were necessary for this before-after comparison in Figure 3.6. Also note in Figure 3.6 the vertical line separating the baseline phase from the intervention phase. This vertical line is called a phase change line. As you develop additional instructional strategies, you compare each new procedure with the one immediately preceding it; the A-B sequence as represented in Figure 3.6 might ultimately become an A-B-C, A-B-C-D, or A-B-C-D-E sequence. (Each new procedure is indicated by a letter.) Your task is simply to compare performance during Condition B with performance in Condition A and performance in Condition C with that during Condition B, and so on.

CHANGES IN TREND. The A-B design allows you to assess intervention effects by noting trend changes in performance. Figures 3.7 through 3.10 illustrate trend changes. In Figures 3.7 and 3.8 response levels changed following the intervention (B). Note the acceleration in Figure 3.7 and deceleration in Figure 3.8. In Figures 3.9 and 3.10 the trends reversed after the intervention from a decrease to an increase in Figure 3.9 and from an increase to a decrease in Figure 3.10.

FIGURE 3.5 NO CHANGE TREND

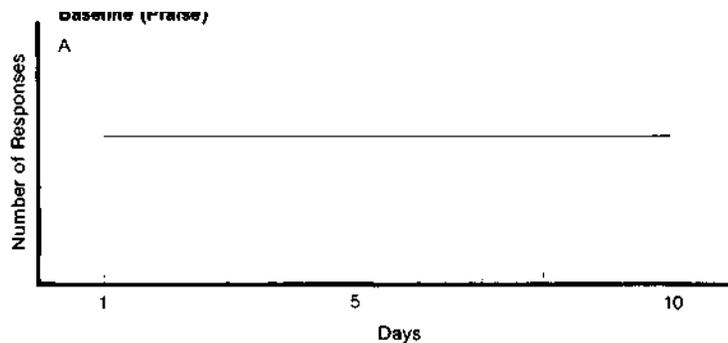


FIGURE 3.6 INCREASE TREND

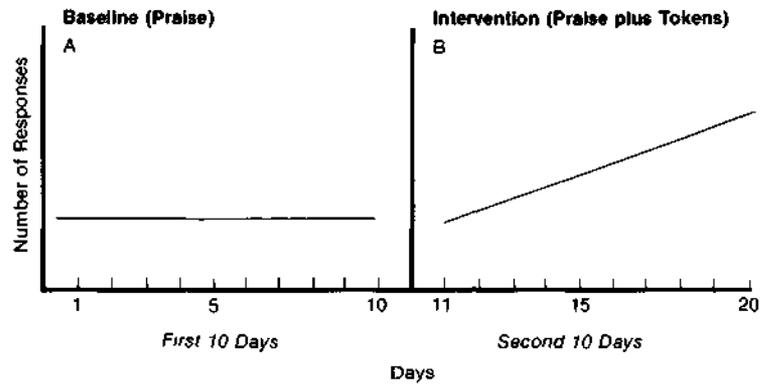


FIGURE 3.7 ACCELERATION TREND

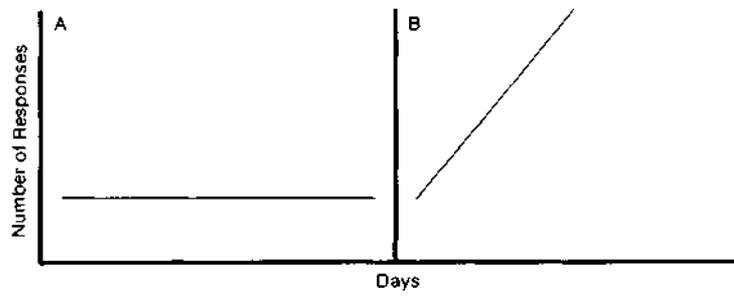


FIGURE 3.8 DECELERATION TREND

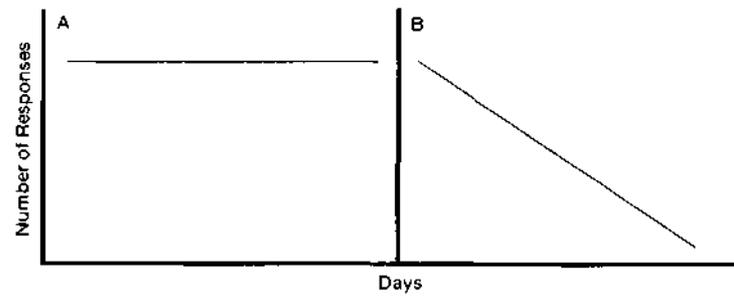


FIGURE 3.9 REVERSE TREND (DECREASE TO INCREASE)

Days

FIGURE 3.10 REVERSE TREND (INCREASE TO DECREASE)

Days

CHANGES IN LEVEL OR STEP. YOU can also have a level, or step, change following an intervention. Level, or step, changes are abrupt interruptions in trend as performance begins at a higher (step-up) or lower (step-down) level *after* the introduction of intervention. Figures 3.11 and 3.12 show these changes. Sometimes you will see level and trend changes in combination. In Figures 3.13 and 3.14 the level and trend changes are opposite to the trend of the baseline Condition A.

When these patterns occur, you can be fairly confident of a behavioral effect. Note that the level and trend changes in intervention are consistent (i.e., in effect), with an increase-to-decrease reversal in Figure 3.13 and a decrease-to-increase reversal in Figure 3.14.

FIGURE 3.11 STEP-UP LEVEL CHANGE

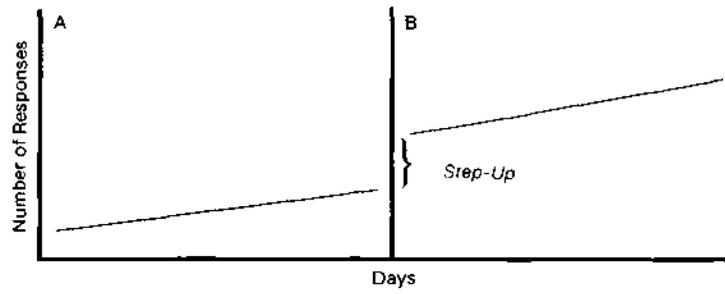


FIGURE 3.12 STEP-DOWN LEVEL CHANGE

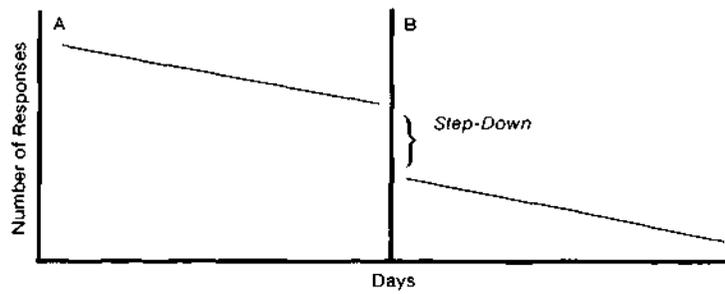


FIGURE 3.13 STEP-DOWN AND REVERSAL (DECREASE) TREND

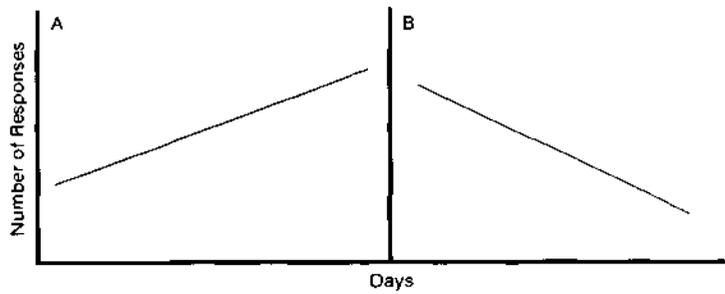
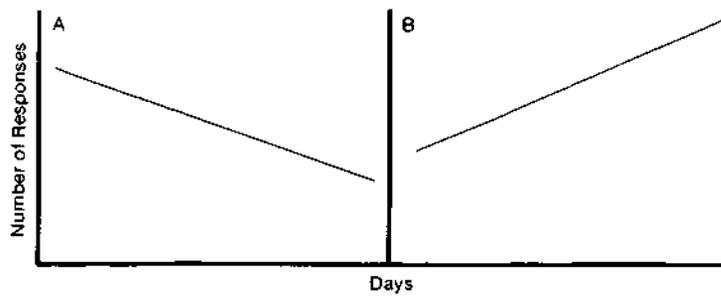


FIGURE 3.14 STEP-UP AND REVERSAL (INCREASE) TREND

Figures 3.15-3.18 showing dramatic change also present strong evidence of an intervention effect. Figures 3.15 and 3.16 show reverse trends without level changes, along with accelerations and decelerations in performance. Figures 3.17 and 3.18 show changes in acceleration and deceleration, as well as level changes. Note, however, that the trends during both baseline (A) phases are moderate by comparison to the trends shown in the two intervention phases (B).

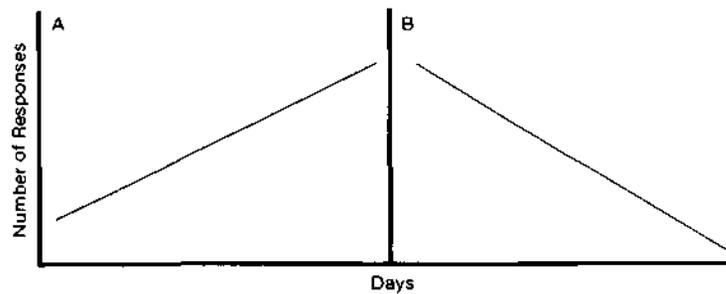
FIGURE 3.15 REVERSE (DECREASE) TREND

FIGURE 3.16 REVERSE (INCREASE) TREND WITH NO LEVEL CHANGE

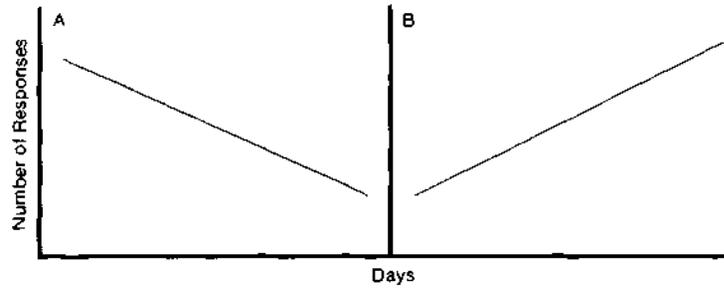


FIGURE 3.17 STEP-UP LEVEL CHANGE AND ACCELERATION TREND

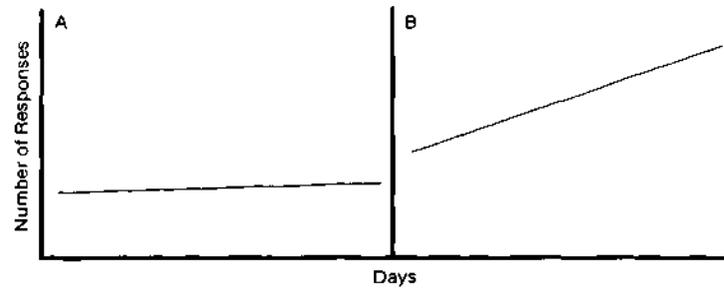
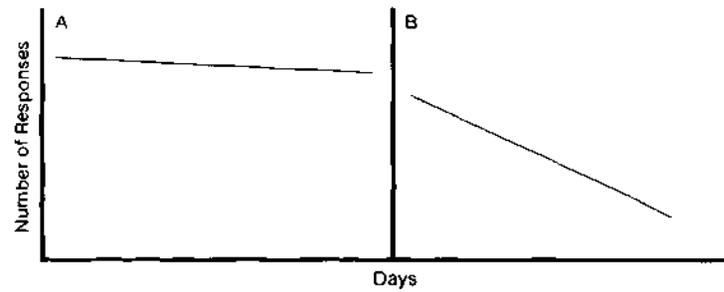


FIGURE 3.18 STEP-DOWN LEVEL CHANGE AND DECELERATION TREND



The third set of patterns suggesting an intervention effect are the acceleration or deceleration trends of Figures 3.19 and 3.20. Note that the greater the acceleration (or deceleration) as indicated by the slope of the trend, the more convincing the demonstration of an effect.

FIGURE 3.19 ACCELERATION TREND

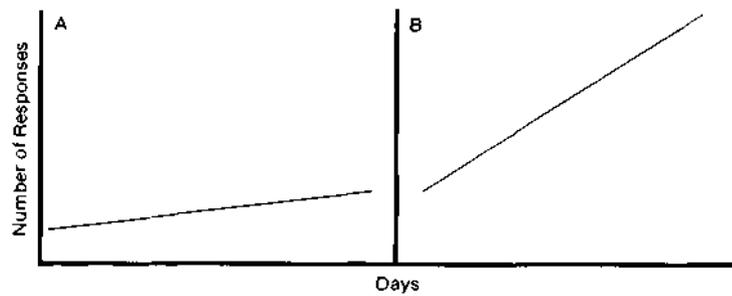
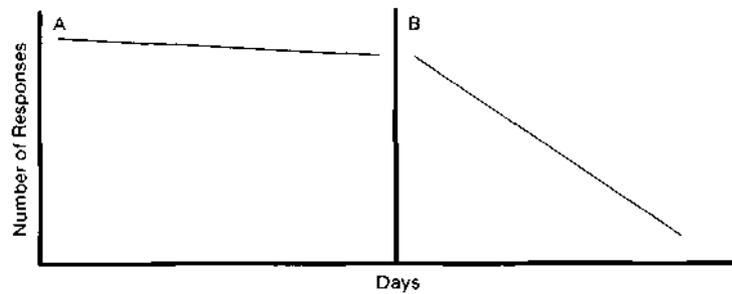


FIGURE 3.20 DECELERATION TREND



The final set of six charts represents the least convincing evidence of an intervention effect. In Figures 3.21 and 3.22 there are level changes, but no changes in trend; in Figures 3.23 and 3.24 the level changes are opposite to the trends in trainee performance. Figures 3.25 and 3.26 show no changes in trends or levels.

FIGURE 3.21 STEP-UP LEVEL CHANGE AND NO CHANGE IN TREND

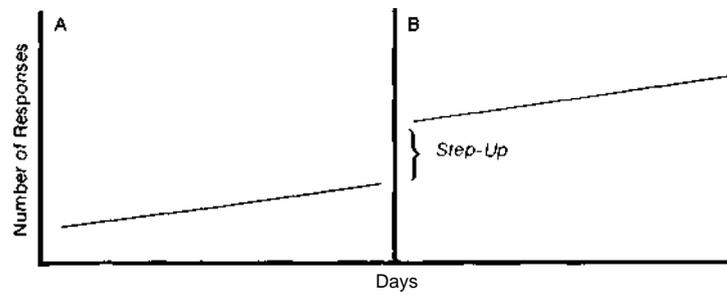


FIGURE 3.22 STEP-DOWN LEVEL CHANGE AND NO CHANGE IN TREND

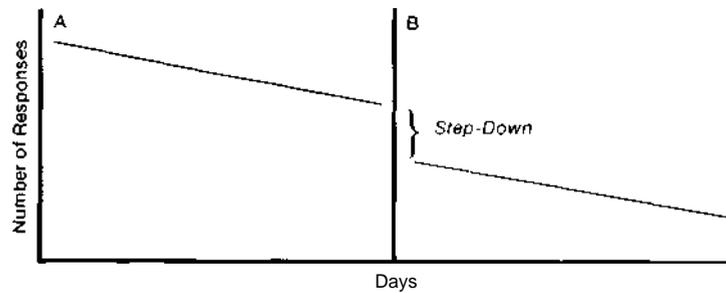


FIGURE 3.23 STEP-DOWN LEVEL CHANGE AND NO CHANGE IN TREND (LEVEL CHANGE OPPOSITE OF TREND DIRECTION)

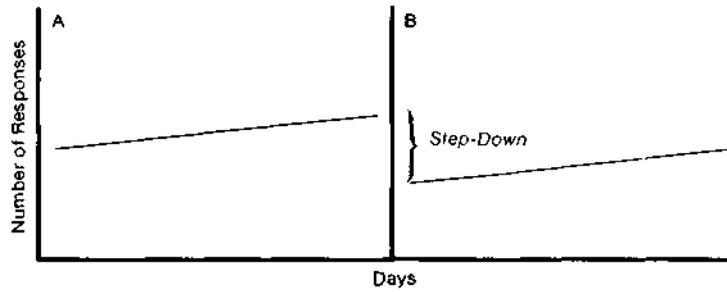


FIGURE 3.24 STEP-UP LEVEL CHANGE AND NO CHANGE IN TREND (LEVEL CHANGE OPPOSITE OF TREND DIRECTION)

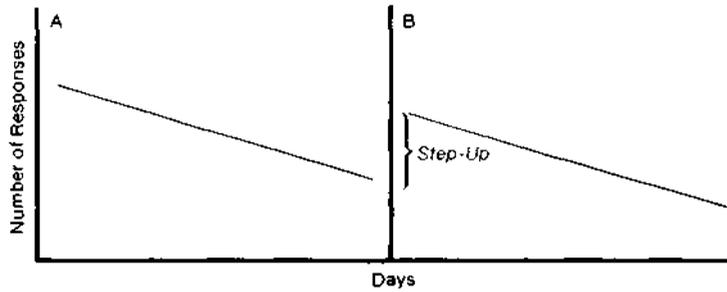
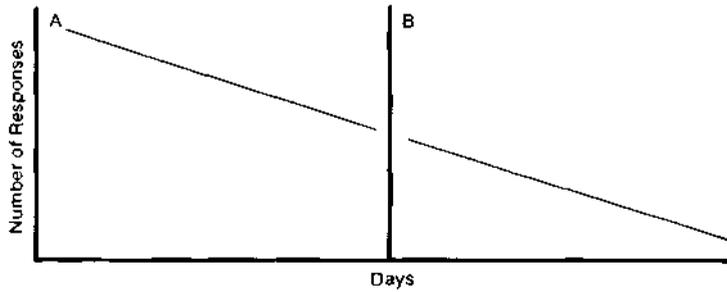
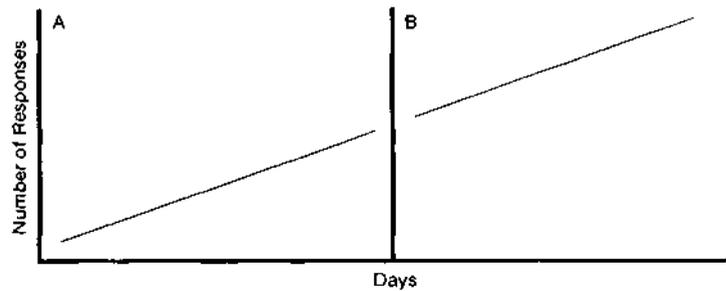


FIGURE 3.25 NO CHANGE IN TREND OR IN LEVEL (DECREASING TREND)



**FIGURE 3.26 NO CHANGE IN TREND OR IN LEVEL
(INCREASING TREND)**



CONCEPT REVIEW

Evaluation of the Baseline-Intervention Strategy

1. Trend
 - a. increase, or acceleration, trend
 - b. no change trend
 - c. decrease, or deceleration, trend
 - d. reversal trend
2. Level
 - a. step-up level change
 - b. no level change
 - c. step-down level change

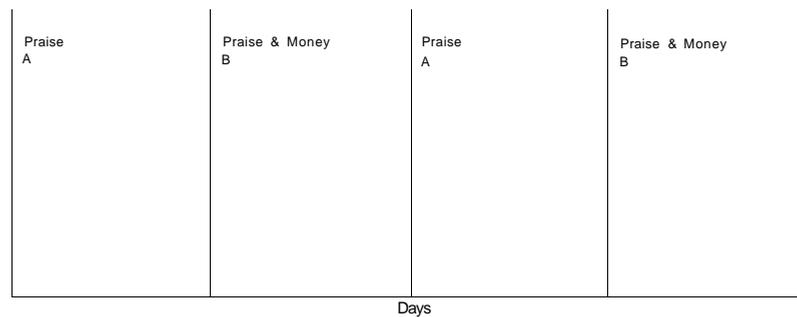
Implementing the Reversal Design

The reversal design is preferable to the baseline-intervention strategy because it allows you to make repeated comparisons of trainee performance under baseline and intervention conditions. If your new procedure is more effective, you will observe trainee performance increase (or decrease) each time the procedure is present and then decrease (or increase) when it is discontinued. This reinstatement of the baseline conditions differentiates reversal designs from baseline-intervention strategies. These *A-B-A* sequences, as they are called, isolate the effects of the intervention from other events which coincide with the intervention and could account for the observed change. As the sequence increases to *A-B-A-B*, *A-B-A-B-A*, etc., any behavioral effect occurring after Condition B

and not in Condition A increases the certainty that the intervention is the cause and the behavior change is the *effect*.

Figure 3.27 illustrates an A-B-A-B reversal design. Here, for example, Condition A might represent the contingent delivery of praise and Condition B, the contingent delivery of praise and money for completed products. Each reinstatement of Condition A produces a step-down level change in production rate, and each reinstatement of Condition B produces a step-up level change. This result allows you to conclude that the praise plus money condition was more effective than praise was alone.

FIGURE 3.27 A-B-A-B REVERSAL DESIGN



When possible, use the reversal design since it can provide conclusive evidence for the effects of an intervention. It not only provides a unique description of what is effective for a trainee, but also allows you to accumulate findings from many trainees, which builds a reliable base for deciding how to begin new programs.

Using the Multiple-Baseline Design

Sometimes intervention effects are not evident in the reversal design if response levels fail to return to the original level (in baseline) when the intervention is discontinued. This often occurs during skill training. If the trainee learns a new skill during one condition, he probably will not immediately forget that skill when you discontinue the training procedure in the reversal condition. And even when task performance is less accurate during these reversals, the return to baseline may not

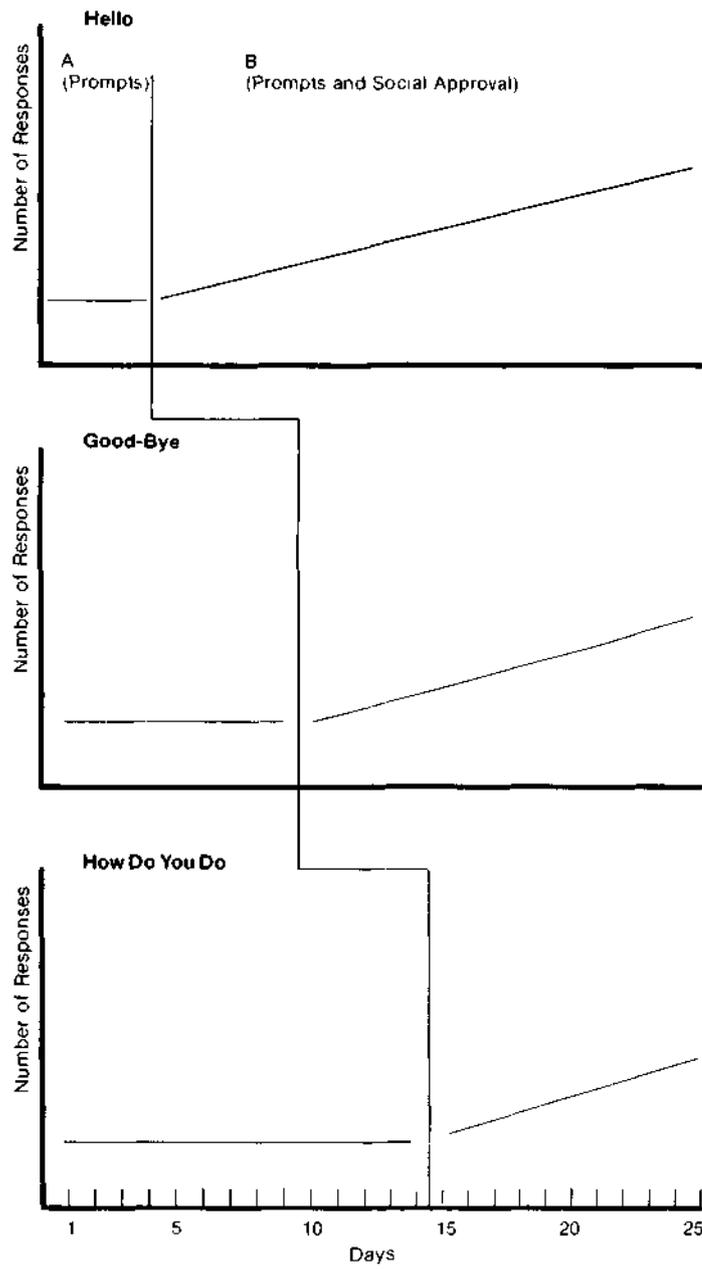
be sufficient to make conclusions about the effectiveness of the intervention. During management programs, however, when the trainee's willingness rather than his ability is at issue, you can expect behaviors to increase or decrease predictably with the presentation or withdrawal of various procedures (interventions). While the reversal design reflects these effects, the multiple-baseline design assesses training effects during the acquisition of new skills.

To conduct a multiple-baseline strategy, you can intervene on several behaviors of one trainee, one behavior of several trainees, or behavior(s) across various work settings. Essentially, you apply the intervention at alternate times, possibly every other training session, and then note if similar changes occur after each application. Then you are able to draw some conclusions about the effectiveness of the new procedure.

In Figure 3.28 the trainee learns the greetings "Hello" in the top panel; "Good-bye" in the middle panel; and "How do you do" in the bottom panel. During the baseline phase (using prompts), you have observed and recorded appropriate use of each of these phrases throughout the work day. Introducing the intervention, prompts and social approval, resulted in increases of "Hello's" beginning on the fifth day, "Good-bye's" on the tenth day, and "How do you do's" on the fifteenth day. As indicated in Figure 3.28, each greeting increased after training. This supports the conclusion that training was effective.

The multiple-baseline design also applies across trainees and settings. During across-trainee designs, different trainees receive training sequentially on the same behavior. For example, refer to Figure 3.28 again; the first person received training on the fifth day, the second person, training on the tenth day, and the third person, training on the fifteenth day. Throughout the demonstration you note any performance changes that may coincide with the introduction of the new training procedure. In across-setting designs you monitor intervention effects in different settings, such as during work, on the bus, and at home, with the intervention commencing in each setting at a different time. Again, behavior changes must correspond with the new treatment by occurring after the intervention commences in each setting. Only then can you say training is effective.

FIGURE 3.28 MULTIPLE-BASELINE DESIGN



CONCEPT REVIEW

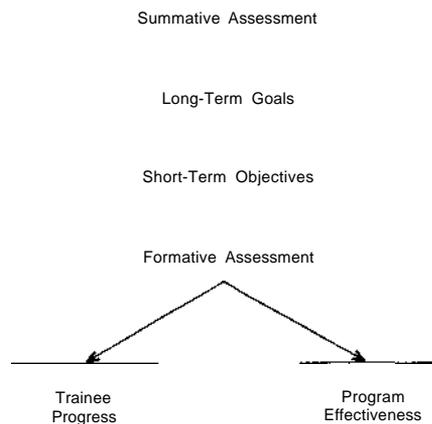
Evaluation Designs

1. Reversal design
 - a. A-B-A
 - b. A-B-A-B
2. Multiple-baseline design
 - a. across behaviors
 - b. across trainees
 - c. across settings

SUMMARY

A comprehensive evaluation of vocational programs consists of both summative and formative assessments. The relationship between these two components defines an effective and efficient system. You need summative assessments to define which goals and objectives are appropriate, and these, in turn, determine the formative assessment you should use. Results of the formative assessment help to redefine trainee needs as indicated in the summative assessment. With both assessments, objectives are set, measures obtained, and skills developed. The following diagram (Figure 3.29) summarizes

FIGURE 3.29 SELF-CORRECTING EVALUATION CYCLE



these relationships. The summative assessment generates long-term goals, which, in turn, define short-term instructional objectives. Formative assessments serve the dual function of evaluating trainee progress and program effectiveness toward these goals and objectives. These outcomes feed back to the summative assessment in a self-correcting evaluation cycle. As indicated by the return arrow, feedback on trainee progress shows the extent to which the trainee performance is in the expected direction. Likewise, feedback on program effectiveness confirms which of the procedures or interventions is the most effective.

SECTION 2

Identification and Training of Skills

The previous three chapters dealt with the principles and effects of training and management strategies. As indicated in the first chapter, using replicable procedures that produce anticipated results is a characteristic of the behavior analytic approach to vocational training. Such replicable procedures must be a part of any program focused on training mentally retarded adults for employment. To this end, goals, objectives, procedures, and responsibilities need to be carefully developed for such a program. Chapter 4 presents an overview of Total Service Planning, a guide which can maximize the likelihood that such goals and objectives will be attained, procedures followed, and responsibilities met. Detailed planning is essential, particularly as training programs become more accountable for their services.

An effective behaviorally based vocational training program integrates its graduates into the work community by developing those competencies that are important for successful adjustment in a particular vocational setting. There are skills other than production (e.g., completing the task with standard efficiency) that contribute directly to occupational success. Rusch (in press), who defined these additional behaviors as survival skills, has argued for the social validation of "social and vocational survival skills" that should be trained prior to placement. These social validation procedures rely on community members (e.g., potential employers) to identify which skills will facilitate a trainee's adaptation and integration into the placement setting. Chapter 5 describes the social validation procedures that are necessary for determining what to train, as well as the results of past social validation research. That chapter underscores the importance of using socially validated

data from the community to define which skill areas to assess and, correspondingly, which instructional objectives and supporting training activities to implement. The chapter presents the results of efforts to determine the social survival skills and vocational survival skills necessary for placement into the community. In addition, Chapter 5 includes detailed information on how to evaluate instructional outcomes in the socially validated areas.

Chapter 6 deals with one of the most important independence variables in community living—getting to and from work. While several transportation options exist, the practical, economical, and ecological advantages of using mass transportation systems appear fairly straightforward, particularly in a time of scarce and costly energy supplies. Because each community's mass transportation system is significantly different, this chapter covers the major dimensions and issues most likely present across communities.

4

Total Service Planning

ACCOUNTABILITY AND PLANNING

Total service planning is incumbent upon service providers, particularly with public attention being paid to cost-benefit analyses. With consumers expressing interest in anticipated results and high costs for obtaining those results, planning for any program is essential. Lessinger (1971) has suggested the need for a continuous public review of any results which have been promised. A few years later Krapfl (1975) presented a definition of accountability, indicating that service providers be responsive to the public and to the trainee. Recent legislation and litigation affecting habilitation programs require that certain guidelines be met. As these requirements for accountability increase, vocational trainers are establishing goals and implementing procedures that are effective (Rusch, Sowers, Connis, & Thompson, 1977). This chapter describes the major areas of planning necessary to set up a program that trains mentally retarded individuals to perform quality services in community jobs. The chapter introduces two concepts formalized in specific planning instruments: the Total Service Plan and the Individual Program Plan. The Total Service Plan is a large map of goals and directions for the individual trainee, while the Individual Program Plan is more microscopic—a view of objectives and procedures to attain these goals.

TOTAL SERVICE PLANNING

Developing a service plan requires establishing goals and procedures for achieving them. There are several advantages to establishing goals. They provide direction to the training staff and trainee, as well as other potential consumers of the services.

With a direction established, it is possible to maximize program consistency. Goals also provide a definable, stable product. Having that product defined by goals facilitates communication between service providers. Total service planning also aids decision making concerning the change of a particular goal. Such overall planning can increase the expectations of all concerned or lead to the reduction or elimination of some goals in favor of others.

CONCEPT REVIEW

Advantages of the Total Service Plan

1. Provides direction to the training staff, trainee, and other potential consumers
2. Maximizes program consistency
3. Provides a definable, stable product
4. Facilitates communication
5. Helps decision making

When there is no service plan, goals are not set, or even if they are informally established, they may differ among various people working with the trainee. Essentially, a staff without a formulated plan has no record to help them provide systematic training to ready the trainees for the marketplace. If there is no service plan, procedures may inadvertently vary from day to day. More importantly, the goal may not be met, or the staff may not realize when or how the goal is met.

CONCEPT REVIEW

Problems Encountered When No Plan Is Developed

1. Goals are not set.
2. Goals differ among people working with the trainee.
3. Procedures may vary from day to day.
4. Goals are not met.
5. Goals are met, but no one knows when or how.

Identifying Components

As already indicated, recent legislation and existing standards for habilitation facilities require that certain guidelines be met. In response to these requirements, total service planning must contain the following components:

1. Present level of social/vocational performance
2. Long-term goals and short-term objectives
3. Specific services to be provided
4. Extent to which the trainee will participate in social/vocational training
5. Projected date for initiation and duration of services (training program)
6. Objective criteria and evaluation procedures
7. Schedule for review of services

Figure 4.1 displays a Total Service Plan sheet with each of the above mentioned components. In addition to blanks for the date developed, the trainee's full name, and the dates for initial and subsequent review, there is a place to note the managing trainer, who has the responsibility for carrying out the specific recommendations made by the placement committee.

There are two distinct levels of planning—the Total Service Plan and the Individual Program Plan. The Total Service Plan deals with the larger overall goals for a trainee. The Individual Program Plan specifies objectives and procedures for reaching each goal in the Total Service Plan. The more specific plan is developed after the larger Total Service Plan has been completed.

COMPOSITION AND DUTIES OF THE PLACEMENT COMMITTEE

Both the Total Service Plan and the Individual Program Plan are the responsibility of the placement committee. This group is an integral link between the goals set for a trainee, the trainee herself, and the services to be provided. The committee's job is to assure that a particular trainee receives the services promised and ultimately has a position paying wages and offering benefits that will allow her the opportunity to lead a more normal and dignified life. Several persons should serve on

FIGURE 4.1 THE TOTAL SERVICE PLAN

The Total Service Plan

Date _____ Initial Placement Conference Date _____

Trainee's Full Name _____ Date for Subsequent Review _____

Managing Trainer's Full Name _____

Present Level of Social/Vocational Performance (Specify here. Use reverse side if necessary.)

SERVICES TO BE PROVIDED FOR CURRENT YEAR

Service Areas (Specify long-term goals here)	Initiation Date	Percent of Time	
		Day	Week
Vocational skills training			
Social skills training			

Placement

Short-Term Objectives (List according to priority, specify objective criteria and evaluation procedures)

PLACEMENT COMMITTEE PARTICIPANTS

Name

Position (include parent/guardian)

Signature

the committee. The placement committee must include, first and foremost, the trainee and an advocate for her. This advocate may be a relative or a legally designated guardian. Beyond these two members, the committee must include the training program director of services, members of the program's staff [including a designated managing trainer), potential customers, and representatives from any agencies providing necessary financial support. Members of the program's staff may include a speech and language clinician, an occupational therapist, a physical therapist, and/or a counselor. Consumers could include at least one graduate who has previously received the program's services and is currently employed, a potential employer, and/or a potential coworker. The employer and/or coworker could be persons who are currently working with a graduate of the program or someone who has indicated interest in hiring qualified workers. Last, and maybe most important, is a representative from the agency purchasing the services to be provided to the prospective trainee. This representative should be fully aware of the goals, objectives, procedures, and progress made toward reaching these goals and objectives.

CONCEPT REVIEW

Members of the Placement Committee

1. Person to receive the services, i.e., the trainee
2. Advocate of the trainee, e.g., parents, sister, brother, or guardian
3. Training program director of services, e.g., executive director or director of adult services
4. Members of the program's staff, e.g., speech and language clinician, occupational therapist, physical therapist, counselor, and a designated managing trainer
5. Graduate of the program
6. Potential employer and/or coworker
7. Agency representative

As already indicated, the placement committee evaluates the adequacy of any services provided. Comprehensive trainee evaluation allows the committee to define a trainee's needs specifically and to develop a Total Service Plan in direct response to those needs. The managing trainer works on behalf of the committee to develop and implement the Individual Program Plan based upon the recommendations made by the committee in the Total Service Plan. This trainer is directly responsible to the placement committee for appropriately implementing the goals specified and is directly involved in the first level of planning—developing a Total Service Plan. The committee, however, is ultimately responsible for all services promised and provided and, therefore, must be similarly involved in the second level of planning—developing the Individual Program Plan.

Specifically, the placement committee is responsible for outlining areas of concern and need, making a placement recommendation, specifying and prioritizing long-term goals, writing short-term objectives, establishing the amount of time the trainee will spend in alternative service areas (e.g., social skills training and vocational skills training), specifying a managing trainer who is in turn directly responsible for individual trainee progress, setting timelines, making recommendations for procedural implementation, and establishing objective evaluation criteria.

Outlining Areas of Need and Concern

Outlining areas of need and concern is the first step of the placement committee. Brown, Nietupski, and Hamre-Nietupski (1977) referred to the use of a "criterion of ultimate functioning" when attempting to integrate handicapped people into community settings. Brown et al. define the "criterion of ultimate functioning" as the behaviors each person should possess in order to function as productively and independently as possible in vocationally, socially, and domestically integrated adult community settings. They go further by suggesting that service providers ask, at least, the following questions:

1. Why should someone engage in this activity?

2. Is this activity necessary to prepare persons to ultimately function in complex heterogeneous community settings?
3. Could people function as adults if they did not acquire the skill?
4. Is there a different activity that will allow people to approximate the criterion of ultimate functioning more quickly and more efficiently?
5. Will this activity impede, restrict, or reduce the likelihood that the trainee will ultimately function in community settings?
6. Are the skills, materials, tasks, and criteria of concern similar to those encountered in adult life?

The placement committee needs to address each of these questions when considering needs and determining any concerns. How frequently a skill is used in a job setting, parental/guardian concerns, and behaviors most/least modifiable are other areas that the placement committee should investigate. The frequency in which particular behaviors will be required to occur is a major criterion for decision making on a particular goal or objective. If the behavior in question is not required on the job, it is not likely to be retained in the trainee's repertoire of skills and is therefore not a feasible target.

When outlining areas of need and concern, the committee should pay particular attention to parents and guardians. Both have been integrally involved in past programming efforts, either directly or indirectly. Their knowledge of prior attempts to train new skills or, possibly, eliminate unwanted behaviors could save managing trainers much time and wasted effort. For example, a parent may be aware that past attempts to eliminate a particular behavior were not successful when a second, desirable behavior was not reinforced in an effort to increase its frequency. Similarly, the guardian may be aware of alternative consequences that are likely to function as positive reinforcers, negative reinforcers, or punishers. Last and perhaps most importantly, the parent or guardian should be consulted about alternative placement possibilities. Typically, mentally re-

tarded individuals have not been provided opportunities to work in various occupations, while nonretarded individuals may have boxed in local supermarkets, driven trucks in the summer, and washed dishes. These experiences help to shape the direction of their future employment. The people who have had such experiences learn which jobs to avoid and which jobs to seek. Most mentally retarded persons have not had previous occupational experience or have had only limited sheltered employment. Therefore they will need the assistance of others (parents and guardians) when selecting a potential vocation.

As already indicated, a major concern of the placement committee is identifying those skills that are least and most modifiable. Employment requires the acquisition and, sometimes, the elimination of behaviors. When faced with the decision to train new and important skills and manage or eliminate undesirable behavior, the committee should plan to train the most modifiable behaviors first. When attempting to change behavior, the initial concern should be to efficiently use time and resources. It is best to choose behavior change objectives that have a good chance of succeeding.

Making a Placement Recommendation

The committee must address alternative placement recommendations almost simultaneously with outlining areas of concern and needs for the trainee. Although placement is the overall goal of the committee, *at no* time should a placement be considered permanent. Participating in sheltered employment or part-time employment should always be considered only initial placements. Future placement considerations and recommendations should be initiated continuously. In most cases full-time employment placements are made at an entry level. For purposes of illustration throughout the remainder of this chapter, the placement recommendation will be that of a kitchen laborer. The goal for this position is:

Placement: After approximately 120 days of training, the trainee will be employed as a kitchen laborer for at least 20 hours per week, earning at least a starting wage and receiving benefits that are regularly available to kitchen laborers.

Specifying and Prioritizing Goals

After outlining areas of concern and need and making a placement recommendation, the committee must specify skills that need to be acquired and managed. It is important to have a clear purpose for training while keeping the success of the trainee in her natural environment the primary goal.

The second step to specifying the skills is prioritizing them in goal statements. Critical considerations to take into account when prioritizing goals include:

1. Priority parental/guardian concerns
2. Priority training program concerns
3. Expectations of employers and coworkers

Program goals, or long-term goals, refer to the behavior(s) the trainee will have acquired upon completion of the training program, i.e., the final behavior(s) the trainee should possess when the training period is over. Figure 4.2 contains sample long-term goals for the position of kitchen laborer. These separate goal statements are used as a basis for specifying services the trainee will receive. The number of goal statements required is dependent upon the skill level of the trainee. It is important to avoid having so many goals that accomplishment is impossible.

Writing Short-Term Objectives for Prioritized Goals

A short-term objective is a manageable training unit. It answers the question, "What needs to be trained?" Oftentimes, it is necessary to train an entire job or skill area, such as grooming, communicating, or managing money. In training something that broad, it is necessary to break the area into many more specific objectives. Short-term objectives contain three important components: (1) the exact behavior that is required, e.g., setting up, operating, or shutting down a conveyor belt dishwashing machine; (2) the circumstances under which it is to occur, e.g., every day between the working hours of 7:00 a.m. and 5:00 p.m.; and (3) how well or often the behavior is to be performed, e.g., at 100% of the required rate for 20 consecutive days.

FIGURE 4.2 LONG-TERM GOALS FOR A KITCHEN LABORER**Service Areas**

(Specify long-term goals here)

Vocational Skills Training

1. After approximately 120 days of training, the trainee will perform all tasks related to the job of kitchen laborer at a minimum of 90% of the industrial norm.

Social Skills Training

1. Every work day the trainee will travel independently to work, arriving 10 to 30 minutes before the scheduled beginning of the shift, and will travel home independently upon completion of the work day.
2. Every work day the trainee will arrive for work well groomed and wearing the proper attire
3. Throughout the work day, the trainee will functionally communicate (via vocationally relevant speech and social amenities) with coworkers and supervisory staff.
4. At significant times in the work day (i e., break time, quitting time, etc.) the trainee will perform operations associated with that time with no prompts from the trainer.
5. After receiving a paycheck, the trainee will endorse the check and budget her or his expenses in the manner appropriate for her or his living arrangement.

For each of the vocational and social skills goals specified in Figure 4.2 there are several objectives. For example, there are several objectives for the social skill of arriving for work well groomed and wearing proper attire. The number of objectives stated will vary with the skill level of each trainee; the more skilled, less handicapped a person is, the fewer objectives and goals will need to be specified. Conversely, the less skilled, more handicapped person requires more objectives and goals. In the instance of the grooming goal, the prospective trainee may spend a considerable amount of time acquiring these skills. Figure 4.3 lists probable short-term objectives for the grooming goal of "Every work day the trainee will arrive for work well groomed and wearing the proper attire."

FIGURE 4.3 SHORT-TERM OBJECTIVES FOR THE GROOMING GOAL

(List according to priority):

1. Upon arrival, the trainee will be wearing proper, clean and neat clothing (i.e., long pants, work shoes, t-shirt, etc.) 100% of the time.
2. Upon arrival, the trainee will have a clean body and clean hair appropriately combed 100% of the time.
3. Before beginning the daily shift, the trainee will put on a bus coat, an apron, and a hat 100% of the time.
4. Before beginning the daily shift, the trainee will clean his or her hands and nails, using soap and hot water, 100% of the time.

Establishing Time in Alternative Areas

For each of the service areas listed in the Total Service Plan sheet, the placement committee needs to estimate the percentage of time that the trainee will spend in that area. (Refer to Figure 4.1.) These percentages will need to be specified on a daily, weekly, and yearly basis. For example, a trainee may spend 80% of his time each day of the work week receiving vocational skills training, with the remaining 20% spent in social skills training. The total percentage of time for all services, including vocational and social skills training, must equal 100%. For each of the goals listed, the placement committee should indicate a date when the services are to be initiated. Also, the goal statement needs to include the percent of the program day the skills will be performed, the approximate number of days of training, or both, to indicate when the vocational or social skills will need to be met. A date for subsequent review should be specified so that the committee can determine if the services are being met.

Specifying a Managing Trainer

The placement committee should assign a managing trainer responsible for seeing that each of the goals and objectives for the individual trainee is met. This trainer will act for the committee in developing each of the Individual Program Plans for a particular trainee. Further, the trainer is responsible for managing the trainee's data, graphs, files, and all inter-

actions between the trainee and the placement committee. The following section further delineates these responsibilities.

INDIVIDUAL PROGRAM PLANNING

The remainder of this chapter introduces the baseline, training, and maintenance/generalization procedural sections of the Individual Program Plan. Each of these three sections of the program plan share several similar components. Many of these components have been introduced in greater detail in chapters 2 and 3 and will be covered only briefly here in respect to the example of the grooming skills goal. The objectives needed to carry out that example goal will be detailed in the remainder of this chapter. A step-by-step description of the components of the baseline, training, and maintenance/generalization procedures sections will be presented. First, however, it is important to focus on the need for weekly staff meetings.

Establishing Weekly Staff Meetings

Vocational training program staff must meet on a regular basis to discuss and review the progress of all trainees. At these meetings you as managing trainer will present your data pertaining to the progress the trainee is making toward the placement recommendation. Consider the case of placing a person as a kitchen laborer after 120 days of training. You will meet weekly with all training program staff to collectively review the progress made toward this placement, deciding whether the baseline procedures are sufficiently accurate to recommend a particular training procedure; whether the training procedures are effective and, if not, what changes should be made for the following week; and whether the maintenance/generalization procedures are working or are resulting in a loss of acquired vocational or social skills.

Section 1: Baseline

The Individual Program Plan is divided into three separate sections. The following discussion details the baseline procedures. Figure 4.4 illustrates a sample Baseline Procedures section of an Individual Program Plan. Beyond filling in the trainee's and trainer's names, you will need to fill in the date the

**FIGURE 4.4 INDIVIDUAL PROGRAM PLAN-
BASELINE PROCEDURES**

Individual Program Plan—Baseline Procedures

Trainee _____ Date Initiated _____

Trainer _____

Long-Term Goal _____

Short-Term Objectives

Target Behaviors

Observation and Recording Procedures (observing, recording, charting, checking)

General Procedures (trainer and trainee behavior, materials)

Baseline Termination Criterion

Summary of Baseline

procedures are to be initiated and specify the long-term goal. (Refer to the sample of a long-term goal for grooming under social skills training in Figure 4.2.) After you have specified the long-term goal, you will write the short-term behavioral objective(s).

SHORT TERM OBJECTIVE(S). The program objective(s) states specifically what behavior(s) the trainee must perform to successfully meet the long-term goal. As noted earlier, one goal may have several objectives and therefore several Individual Program Plans. For the grooming goal there are four short-term behavioral objectives. (Refer to Figure 4.3.)

You must clearly define each behavior to be trained or managed. For example, to say, "Jon looks good" implies different things to different people; whereas to say, "Jon's hair is combed, face washed and shaven, hands and nails clean, etc." explains exactly what might be meant by the statement, "Jon looks good." The explicit statement also makes it easy for other trainers to observe, measure, and agree upon when the target behavior(s) is actually obtained.

TARGET BEHAVIOR(S). Clearly specified behaviors should pass the "stranger test" (Sheppard, Shank, & Wilson, 1973). If you give the target behavior to a stranger and ask her to indicate when the behavior occurred, she should be able to agree with you on its occurrence and/or nonoccurrence. Specifying behaviors will ensure that another trainer running the program in your absence will be able to continue the same procedures consistently. Target behaviors for the four grooming objectives include clean and neat clothes (i.e., shoes, socks, pants, and shirt(s) free of dirt spots and grease); dean and neat hair (i.e., free of dirt, dandruff, and excessive oil); bus *coat, apron, and hat (or hair net) on*; and clean hands and nails (i.e., both hands and nails free of dirt, with nails trimmed).

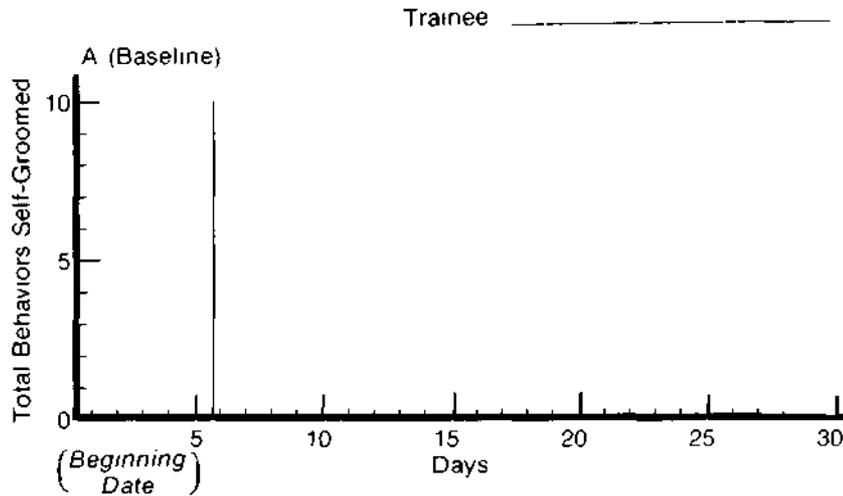
OBSERVATION AND RECORDING PROCEDURES. The observation and recording procedures should include all aspects of how the trainee will be observed and the data will be collected. Detail here is particularly important. Observing, recording, charting, and agreement checking conventions must be included. The observation procedures must detail who will observe the trainee and when the observation will occur. Further, documenting how the observation will be carried out is important. For each of the

grooming objectives the designated observer, a program staff person, must be familiar with the target behaviors before actually observing. For each target behavior you can use a simple plus (+) or minus (-) to indicate whether or not it has been completed to criterion. Figure 4.5 is a grooming recording sheet that could be used during each of the baseline recording sessions. It is important for the trainee to be appropriately groomed before each work shift begins. The date must be recorded when the trainee reports to work, i.e., immediately after he punches his time card and reports to the work station. During the baseline phase, this observation should be made in view of the trainee but without interaction with him.

Charting the data will provide you and other staff members with a picture of how well the trainee is doing. Figure 4.6 is a sample grooming chart that could be used during each baseline recording session. It is necessary to specify on the baseline procedures form where the chart and recording sheet will be kept (e.g., in a particular filing cabinet under the heading of "Grooming program for Peter").

As for agreement checks, it is necessary to specify how many checks will be made, who will make them, and when. Agreement checks are necessary to determine the extent to which someone else agrees with what you observe. Stated differently, these checks validate the reliability of the data and consequently your ability to observe and report accurate data. In the grooming example you might have a second trainer observe you once a week, or a couple of times during the baseline phase, as well as subsequent phases. When a second trainer is observing and recording, be sure that the two of you do not talk during the designated observation session and that you are not in easy view of each other's recording sheets. Figure 4.7 illustrates observation and recording procedures for the grooming objectives.

GENERAL PROCEDURES. TO allow for complete and accurate continuation or replication of procedures by a second trainer, make sure the procedures fully specify information on the conditions to be followed during the baseline. Include the trainer's and trainee's behavior and the materials needed to conduct the session.

FIGURE 4.6 GROOMING CHART**FIGURE 4.7 OBSERVATION AND RECORDING PROCEDURES**

The managing trainer will observe the trainee every day at 8:30 p.m. The trainer will stand in clear view of the trainee when she punches in for work, recording a (+) or (-) for each of the four target behaviors on the Grooming Recording Sheet. The trainer will be responsible for filling in the trainee's name, date, time start and stop, and the goal. The trainer will carry a clip board with a grooming chart mounted on it. On the Friday before each Monday staff meeting the managing trainer will chart the frequency of grooming areas completed without assistance. All recording sheets and the chart will be kept in the "social survival skill training programs" filing cabinet under "grooming program—(trainee's name)." Agreement checks will be taken at least once a week by a second staff person to be selected at least one day in advance by the trainer. All agreement sheets will be marked and stapled to the managing trainer's observation sheet.

When materials are needed to carry out the baseline session, specify them and note where they are to be kept. Such materials may include a grooming sheet, a stop watch, coins, a tape recorder, etc. Any trainer should be able to read the baseline procedures and get the materials without assistance.

An extensive description of the managing trainer's behavior in relationship to the trainee's behavior and the identified target behavior(s) must be specified. You should stipulate where verbal instructions, physical guidance, or perhaps a model is to be used. Further, if physical guidance is going to be used, it may be important to delineate what verbal cue or physical prompt will always precede the likely occurrence of full physical assistance. You will need to outline consequences: correcting and/or praising, for example. Figure 4.8 illustrates the detail needed in specifying these general procedures.

FIGURE 4.8 GENERAL PROCEDURES

The managing trainer will provide a simple verbal cue *once* to the trainee upon arrival. Then the managing trainer will wait until the trainee reports to the work station before providing feedback on how well the trainee groomed himself. At that time the managing trainer should check whether the trainee has clean and neat clothes; clean and neat hair, a bus coat, apron, and hat/net on, and clean hands and clean and neat nails, in that order. All grooming areas must be recorded before any corrective feedback is provided. Simple verbal feedback will be provided to the trainee on groomed versus nongroomed areas. The trainee will then be required to return to his locker and washroom and regroom any of the areas not groomed to criterion. Modeling and physical assistance should be provided only if the trainee fails to follow a verbal cue within 10 seconds. The trainer will need a clip board, two pencils, a grooming observation sheet, and a watch—unless a clock is in clear view

BASELINE TERMINATION CRITERION. YOU will need to anticipate the time necessary for the baseline procedures. For example, you may want to stipulate that "after any 3 consecutive days on which the data appear unchanged, the baseline phase will be discontinued." See Figure 4.9 for a sample termination criterion.

SUMMARY OF BASELINE. After the trainee reaches the criterion for termination, you will be ready to write a complete description of the baseline procedures (Figure 4.10). This

FIGURE 4.9 TERMINATION CRITERION

The baseline period will be discontinued after the trainee obtains the 11 grooming responses or fails to make progress toward independent grooming for 3 consecutive days

FIGURE 4.10 BASELINE SUMMARY

The trainee was able to groom himself independently on 3 of the 11 grooming areas when provided a verbal description of what was required and how well he performed once at the work station. Consistently, the trainee reported to work with a bus coat and hat on and with clean hands. All other areas were not completed without verbal feedback. Of possible interest may be the trainee's displeasure with being physically assisted. The baseline procedure lasted 5 days. The frequency of areas groomed were 2, 2, 3, 3, 3. The trainee failed to make progress for 3 consecutive days.

written summary of baseline should be descriptive enough to provide the reader with a clear picture of the data without looking at the recording sheet.

Section 2: Training

Once you have completed the baseline procedures, you will need to implement the behavior change procedures recommended at the weekly staff meeting. Because staff meetings keep all members up to date on the procedures tried and results obtained, decisions to introduce new training procedures should be relatively simple. The training procedures section of the Individual Program Plan (Figure 4.11) contains all the components found in the baseline procedures sheet, plus two additional ones: new training procedures and parent/guardian participation. Because the procedures and elements covered in the previous section apply here, only these two additional components will be described in detail with examples.

**FIGURE 4.11 INDIVIDUAL PROGRAM PLAN-
TRAINING PROCEDURES**

Individual Program Plan—Training Procedures

Trainee _____ Date Initiated _____
Trainer _____
Long-Term Goal _____

Short-Term Objectives _____

Target Behaviors _____

Observation and Recording Procedures _____

General Procedures _____

New Training Procedures _____

Parent/Guardian Participation _____

Training Termination Criterion _____

Summary of Training _____

NEW TRAINING PROCEDURES. There are two occasions when you will need to document new training procedures. The first is when a training procedure is being tried in addition to, or in place of, those stipulated in the baseline procedures. The other occasion is when a second new training procedure has been recommended because the trainee did not improve with previous methods. Note the sample in Figure 4.12.

FIGURE 4.12 NEW TRAINING PROCEDURES

The trainee will be provided preinstruction on the use of the grooming sheet upon arrival every day. Preinstruction will consist of a verbal rehearsal of the desired behaviors. After the trainee has been given preinstruction, the trainer will ask the trainee to "go ahead and do it by yourself. When you are finished, be sure to make a mark on the space next to the grooming area just completed. When all done, punch in and go to work." The trainer should then go to the work station and wait for the trainee to complete all the grooming tasks independently. After the trainee reports to the work station, the trainer will code whether or not each of the 11 grooming areas was done. If one of the responses was not made, the trainer will provide a rationale for beginning work well groomed, e.g., "employers will want you to be neat and clean," and then the trainee will be required to practice the grooming response 5 times. After the repeated practice, the trainee will return to the work station and begin working.

PARENT/GUARDIAN PARTICIPATION. Oftentimes, the behavior of the trainee will be more responsive to a training procedure if it is instituted across several settings and people and done for extended periods of time. Incorporating the help of others will increase the likelihood that your procedures will be successful. To enlist the support of a parent or guardian, it may be necessary to have her or him attend a session at the training program to learn how, when, and why a specific set of procedures should be implemented. When it is not possible for parents or guardians to attend the program, you should make arrangements to present the procedures to them at home. See Figure 4.13 for sample Parent/Guardian Participation.

FIGURE 4.13 PARENT/GUARDIAN PARTICIPATION

Both parents of the trainee will be asked to attend a special grooming session to learn what grooming areas are being monitored and why. The parents will be asked to regularly check to be sure the trainee washes his hair as well as wears color-coordinated clean clothes. The parents will be asked for a telephone report on the number of times the trainee bathed per week (3-4 are to be recommended) and the number of times they had to ask the trainee to wear clean color-coordinated work clothes.

Section 3: Maintenance/Generalization

PROCEDURES. Figure 4.14 displays a maintenance/generalization procedures section. This plan sheet is similar to the previous ones in all but two areas. These are the maintenance/generalization procedures and recommendations. All other components of the plan, which are common to the previous two sections, will not be covered further here. As attention turns from baseline and training procedures to maintenance or generalization, you need to plan how to withdraw or transfer the training procedures without losing the newly acquired, or terminated, behavior. The maintenance or generalization procedures may include an initial recommended set of procedures or a second or third effort to maintain or generalize the behavior(s). See Figures 4.15 and 4.16.

RECOMMENDATIONS. As managing trainer you must recommend what, if anything, should be done subsequent to the maintenance/generalization effort. You may recommend that a coworker or peer receive training to provide the trainee qualitative feedback on dressing and grooming. You may also recommend that new clothes be purchased or a different hair stylist be contacted to trim and style the trainee's hair. See the sample in Figure 4.17.

RECORDS MAINTENANCE

You should catalog your program plans by the major heading "Social" or "Vocational" first. Then use a second descriptor, such as "grooming," "time management," or "produc-

**FIGURE 4.14 INDIVIDUAL PROGRAM PLAN—
MAINTENANCE/GENERALIZATION PROCEDURES**

Individual Program Plan—Maintenance/Generalization Procedures

Trainee _____ Date Initiated _____

Trainer _____

Long-Term Goal -----

Short-Term Objectives

Target Behaviors

Observation and Recording Procedures

General Procedures

Maintenance/Generalization Procedures

Parent/Guardian Participation

Maintenance/Generalization Termination Criterion

Summary of Maintenance/Generalization

Recommendations

tion." Under each of these second headings, place the program plans in this order: baseline procedures first, followed by the training procedures and the maintenance/generalization procedures. Keep data relating to a specific program plan apart from that for other program plans.

FIGURE 4.15 MAINTENANCE PROCEDURE

Preinstruction will be discontinued for 5 days. If the 11 grooming behaviors are maintained, then the repeated practice component will no longer be used when a grooming response is not made. Only simple corrective feedback will be given. This will continue for an additional 5 days. Should the grooming responses maintain after this component is withdrawn, data will be collected twice weekly for 4 weeks with no feedback of any kind provided by the program or staff. The parents should continue to record the number of times they ask the trainee to bathe or change clothes. Should either of these increase, a new training program plan sheet will be completed by the managing trainer, suggesting procedures for them to follow to eventually discontinue giving these directives.

FIGURE 4.16 GENERALIZATION PROCEDURE

Preinstruction will be discontinued for 5 days. If the 11 grooming behaviors are maintained, then the repeated practice component will no longer be used when a grooming response is not made. Only simple corrective feedback will be given. At this point simple corrective feedback will be provided by 5 different persons each of the 5 days of the work week. The schedule for feedback is posted above the clock. If the grooming responses maintain when simple corrective feedback is provided by the trainers for 5 consecutive days, all feedback will be discontinued, if the grooming responses maintain at this juncture of the program, the data will be collected once weekly for 4 consecutive weeks with no feedback provided. However, the data will be collected by 4 different trainers on 4 different days. The parents should continue to record the number of times they ask the trainee to bathe or change clothes for 5 days. If the behaviors in the vocational setting maintain, the parents should discontinue asking the trainee to bathe or change clothes; however, they should continue collecting the data.

FIGURE 4.17 RECOMMENDATION

The trainee should be encouraged to have his hair styled to make it easier to manage at work. Also, a second trainee should be given an opportunity to monitor the maintenance of each of the grooming responses of the target trainee.

SUMMARY

Total Service Planning insures effective services will be provided to the trainee. Knowledge of behavioral gains or losses through data generated by following any of the plans outlined in this chapter should only increase the likelihood that the trainee will be served effectively. Incorporating data-based decisions will promote the trainee into the work force with full knowledge of skills acquired which are necessary for job survival.

5

Social and Vocational Survival Skills

It appears that some behavior patterns contribute more to a person's work adjustment than others; when these key patterns are absent, a person will probably make a poor adjustment to work. The term survival suggests that trainees who possess these skills experience some degree of success. The purpose in presenting this notion is to refocus priorities in a way that maximizes the effectiveness and efficiency of any vocational training effort. People developing a comprehensive vocational training program for mentally retarded persons can fall into the trap of expecting too much—success in teaching all identified skills. Although such an attempt is noble, the outcome can be disappointing and frustrating. Instead of teaching all the skills that appear useful in job placement, the program efforts should focus on a variety of activities that have immediate and long-term benefits for the trainee: the survival skills.

In considering survival skills, it is important to be concerned with those leading to immediate practical results such as acquiring and keeping employment. You as managing trainer should always be aware of whether acquiring a skill is necessary for the trainee's acceptance on the job. Essentially, it is important to determine whether the trainee will be more acceptable to employers, supervisors, and potential coworkers when her clothing is color coordinated and stylish and when work productivity equals that established to "get the job done."

Training *to acceptable* standards challenges the view that the goal of vocational training is to make mentally retarded adults as normal as possible. Instead of attempting to reduce all identified deficits, survival skills training attempts to reduce those differences between people that may prevent the achievement of a fuller measure of self-sufficiency and fulfillment. A

behavior analytic approach to vocational training seeks to develop those skills that are essential for entrance into and maintenance of the job in the community setting.

This chapter introduces the survival skills concept to maximize the opportunities for mentally retarded people to gain and maintain employment. Employing a broad community-oriented approach, the chapter reviews the vocational training cycle, illustrates some social and vocational survival skills, and introduces assessing trainee progress through descriptive and comparative validation assessments.

IDENTIFICATION OF SURVIVAL SKILLS

Accepting the view that vocational training programs should focus upon skill and behavior deficits that prohibit vocational placement is employing a community-oriented approach to training. This means the community defines what is important for survival, with trainers adjusting to these requirements. This is in contrast to efforts that purport to change the community in order to accommodate the needs of the mentally retarded person. While such reverse influences are important and will continue to improve vocational opportunities for mentally retarded persons, your major role as trainer is to prepare the trainee for those community requirements that exist today. Accordingly, this chapter describes the managing trainer's role in determining the job expectations for placement within the community.

The Vocational Training Cycle

The vocational training cycle of survey, train, and place begins and ends in the community; thus, social validation is a key feature. Lessening chances of failure for the individual trainee, social validation occurs *before* training, during training, and after placement through follow-up. It begins with seeking job requisites from the prospective employers. Survival skills needed to meet those job requisites follow from that first step in social validation. During training, progress is assessed through specific information gleaned from job personnel. Assessment at this point confirms or invalidates the training activities and outcomes in time for the trainer to alter the direction and content

of training, if necessary. This interaction between the trainee's new skills and confirmation is a vital link in the vocational training cycle. Conducting social validation at this point within the training program involves presenting information on trainee outcomes to prospective employers, supervisors, and coworkers for their feedback on the relevance of the trainee's program. Two methods of presenting this information are the descriptive validation assessment and the comparative validation assessment, both of which will be discussed later in the chapter. Incorporating social validation at the end of the training cycle—placement—will be discussed in chapter 7.

Identifying Job Requisites (Survey)

The methods for collecting job requisite data include verbal reports from knowledgeable persons and direct observations of worker behavior. The advantages and disadvantages of the two methods are important in deciding which to employ in a given situation.

VERBAL REPORTS. The verbal report usually involves an interview with an employer, a job supervisor, or even an employee who describes the entry requirements for a targeted job. Although this appears easy enough, frequently the outcomes of such interviews are disappointing. Many employers, supervisors, and employees have never articulated what skills or behaviors they consider important for a particular job. Their statements such as "being a good worker" and "getting along with others" usually are not sufficiently behavioral, i.e., specific, to be useful. This difficulty does not occur during the structured interview which, instead of requiring the respondent to recall important requirements, provides a list of possible standards and criteria from which to select. The structured interview relies upon the interviewee's recognizing and selecting standards that are important for job survival. Mithaug, Hagmeier, and Haring (1977) employed a structured interview with supervisors from four sheltered workshops in the Seattle, Washington, area. They answered the questions: For entrance into sheltered employment is it important that an employee should.... The standards to be evaluated completed the question phrases. Each criterion phrase was behaviorally stated to provide the direct

measure of performance needed. For example, questions on endurance required supervisors to indicate how long they expected employees to work continuously (0-15 minutes, 15-30 minutes, 30-60 minutes, 1-2 hours, or more than 2 hours). Rather than assuming a common definition of endurance, this format described endurance in terms of different performance standards which the supervisor then used to describe the expectation of that particular shop.

This method was more successful than the unstructured interview in which supervisors had difficulty recalling specific criteria for job entry. During the structured interview, four supervisors agreed on categories as being important; however, each supervisor selected different behavioral standards (Mithaug, Hagmeier, & Haring, 1977):

For example, although all supervisors selected the criterion questions dealing with disruptive behavior, they selected different tolerance levels in their answers to that question. One supervisor selected 1-2 inappropriate work disruptions per day, two permitted a 3-5 per day level, and the fourth tolerated 6-8 disruptions per day. (p. 92)

These results suggest that each job is sufficiently different to require a new set of behavioral expectations and that there are no common skill requirements across jobs of a given class. An alternative interpretation, however, is that while specific entry level expectations may vary from shop to shop, or job to job, there is sufficient agreement on the categories of important behaviors to generate a common listing of critical *survival* skills.

Mithaug and Hagmeier (1978) addressed these questions in a survey of 56 supervisors in activity centers, developmental centers, and sheltered workshops from five northwestern states using the structured interview form described previously. Then Johnson and Mithaug (1978) compared the results of this survey with data collected in a replication survey of 15 centers in Kansas. This comparison provided a reliability check on the criterion categories selected for entry into sheltered employment. There was significant agreement between the two surveys, indicating that agreed-upon entry requirements for sheltered employment were reliable across states and regions.

OBSERVATIONS. Another method of determining entry requirements is through direct observations of workers performing targeted jobs. This approach avoids a major problem arising during the verbal report: disparities between what supervisors say is important and what, in fact, is critical for success. The supervisor's statements about entry requirements may not correspond to criteria actually used to screen potential employees. Expectations may be too high, indicating that trainees lacking a particular skill are not acceptable when in fact they are, or they may be too low with the reverse occurring as trainees who appear acceptable are actually rejected. By observing recently employed workers and noting their skill competencies and deficits, you can identify the important characteristics of successful workers.

Unfortunately, these observations require direction about where to begin and what to observe. Without some notion about what behavioral categories are important to observe, it is impossible to gather meaningful data. This information must come from the employer, supervisor, and/or coworker who, hopefully, can provide sufficient descriptions of job requirements and expectations to guide your observations of worker performance. There are many questions that may be posed regarding what observational data can be of direct value. For example, it may be interesting to note to what extent prespecified performance levels of employees actually meet the requirements of the job as stated verbally or how much deviation is allowed and what types of infractions result in immediate sanctions. A first step in developing an observational system is to interview to determine the essential activities of the job (i.e., what is expected). Once these duties are listed, you can develop a data sheet for monitoring different workers in the performance of their duties.

Observations may focus upon a particular task or tasks. This will provide you with more detailed information on the responses necessary to perform the targeted job. Mithaug and Haring (1977), for example, described a procedure to assess the response requirements of different subcontracting jobs in sheltered workshops. The observational system consisted of a data sheet that listed the behaviors, activities, and subtasks common to many tasks in column heads across the top of the

sheet, and the subcontracting jobs indicated by name on the farthest left column. Trainers observed workers performing each subcontracting job and recorded data by checking the space intersected by the row and column corresponding to the observed skill behaviors necessary to that job. After observing many subcontracting jobs across several days and weeks, the trainer totaled the column entries to determine how frequently workers performed the different activities in that shop's subcontracting work. This information provided an objective base for deciding what skills were necessary. Training focused first upon those behaviors and skills most frequently required and then included the less frequently needed skill and task areas.

A similar observational system is useful in assessing requisites for different jobs in competitive industry. Necessarily, the first step is to conduct a Job Analysis Survey (see chapter 7). Essentially, this is an analysis of those tasks and activities performed in various jobs. Then you task analyze each job component. These analyses are the basis of your observation system which could be similar in format to the one described for sheltered workshops. Now you are ready to record the behaviors of different workers performing activities listed on the derived data sheet. After completing many observations of different workers, total the columns to summarize results. This information verifies the original specification of important duties by indicating which of the behaviors and sequences of activities workers actually perform. By classifying workers as veterans and novices according to the number of years of employment and then summarizing data within these classifications, you can differentiate job expectations for entry from those for long-term employment in that position.

SOCIAL VALIDATION OF FINDINGS. One finding from studies of different job assessment methods is that some survival skills are more easily identified than others. Initially, supervisors have little difficulty listing the specific duties of prospective employees; however, these job descriptions sometimes require further elaboration on what is expected through verifications by potential coworkers of the duties and responsibilities. Often, this is not the case in identifying the most important skill or

behavior patterns that directly relate to job performance. Supervisors may, however, have difficulty recalling the *additional* behaviors that differentiate successful from unsuccessful workers, and the authors have had problems constructing alternative observation systems that identify these additional critical skills. This means that the job assessment is useful only in determining where to begin a trainee assessment. The ultimate verification of these outcomes requires further social *validation*, which determines whether the social and vocational skills initially defined as important are in fact necessary for success on the job. This process consists of gaining the support and approval of significant persons in the job and community, e.g., the trainee, parent, and employee.

To summarize the view of survival skills, the job assessment can be used to determine what skills and behaviors to begin training, and social validation procedures can be employed to verify the appropriateness of these identified skill and behavior areas. Finally, this process begins and ends in the community, marking the chief characteristic of community-oriented training. The vocational training cycle of survey, train, and place suggests feedback to the initial job assessment step (survey) to verify, revise, and continuously update criteria considered important for job placement.

Identifying Social Survival Skills

Any classification of survival skills is to some extent arbitrary. For purposes of organization and discussion of survival skills data, skills and behaviors directly related to job performance will be defined as vocational skills, and all others, as social skills. In the food service industry, for example, vocational skills may include dishwashing, bussing, food preparation, and sweeping, as well as such associated worker behaviors as rate of task completion, endurance on task, continuous work, or attendance. The important social skills that do not affect the performance of assigned duties might include personal appearance and interaction with coworkers and job supervisors.

The authors' search for survival skills is not, by any means, an original one; researchers have studied the effects of

different variables on job success for many years. These studies have investigated the effects of intelligence, chronological age, school achievement, family influence, personality, emotional stability, gregariousness, obedience, truthfulness, ambition, self-respect, attitude, and motivation on work adjustment (Mithaug & Haring, 1977). Unfortunately, these efforts have not generated useful information on what to train or how to improve success on the job. In general, these studies have failed to present findings specific enough to maximize employee success on the job. Incorporating a vocational training cycle approach fills this gap in the knowledge of what is generally important across all jobs, on the one hand, and what is uniquely important to a particular job, on the other. The task, then, is to use this cycle to identify potentially important skills during a Job Analysis Survey and then to verify these areas through continuous social validation.

PERFORMANCE SUGGESTED BY STUDY. The need for social validation of social survival skills can be met in part by taking into consideration data generated by Mithaug and Hagmeier (1978) and Johnson and Mithaug (1978) on the social survival skills for sheltered employment. These findings might apply to competitive employment situations as minimal competencies, with the expectation that additional skills will be necessary for successful entry into these higher-level jobs. The combined data from these two surveys generated a list of behavioral categories that most respondents considered important for entrance into sheltered employment. Mithaug, Mar, and Stewart (1978) employed this data base to select items that 85% or more of the respondents agreed were important. These items formed the Prevocational Assessment and Curriculum Guide, which is used by trainers in preparing moderately, severely, and profoundly mentally retarded trainees for sheltered employment.

Employing a 90% criterion similar to the one used by Mithaug, Mar, and Stewart (1978), who employed an 85% criterion to identify performance categories that all supervisors considered important, the authors have generated some tables taking a closer look at the survival skills needed. Table 5.1 lists the survival skills (but not the behavior standards) common to most employment situations.

TABLE 5.1 SOCIAL SKILLS CATEGORIES SELECTED FOR ENTRY BY 90% OR MORE OF RESPONDENTS

Employees should be able to:	Percent of Supervisors
1. Communicate basic needs, e.g., thirst, hunger, etc.	99%
2. Maintain proper grooming	97%
3. Communicate basic needs expressively	96%
4. Learn new tasks explained by _____	96%
5. Communicate basic needs receptively	95%
6. Respond to instructions requiring immediate compliance	93%
7. Not leave job station inappropriately more than _____	93%..
8. Display/engage in major disruptive behavior no more than _____	93%
9. Display/engage in minor disruptive behavior no more than _____	90%

Nearly all respondents (99%) considered communicating basic needs to be important, while a somewhat lesser percent (90%) considered the control of minor disruptive behavior to be important. This 90-99% consensus was generated by supervisors from 56 different workshops, activity centers, and developmental centers in five northwestern states. These data are more descriptive when the behavior standards describing each category are reviewed. The first category, communicating basic needs, has five response alternatives indicating the types of basic needs to be communicated: thirst, hunger, sickness, pain, and toileting necessities. Although 99% of all respondents indicated one or more of these standards to be important, the distribution of these choices varied. This was the case for each category listed in Table 5.1. In addition, a comparison of data for the different disability groups served in the 56 workshops showed systematic differences as well.

Table 5.2 presents the grooming category data generated by supervisors serving mildly and severely mentally retarded adults. The differences in levels of supervisor agreement across the seven grooming skills ranged from 96% and 86% for "dress appropriately for work" to 66% and 36% for "displays proper table manners at lunch." In addition, all skill categories received more frequent selections from supervisors who served mildly mentally retarded persons, suggesting that entrance standards

for these shops were consistently higher than those serving severely mentally retarded people. Although this finding is not surprising, it demonstrates how entrance standards may vary systematically across jobs, even when there is agreement that a given category, namely grooming, is important.

TABLE 5.2 GROOMING SKILLS REQUIRED

For entrance into sheltered employment, should an employee maintain proper grooming and:	Percent of Supervisors from Workshops Serving	
	Mildly Retarded	Severely Retarded
1. Dress appropriately for work	96%	86%
2. Dress appropriately after using the rest room	85%	81%
3. Clean self before coming to work	85%	72%
4. Clean self after use of the rest room	78%	68%
5. Clean self after eating lunch	81%	63%
6. Eat food appropriately at lunch	67%	59%
7. Display proper table manners at lunch	66%	36%

In addition to anticipated variations along a mild-to-severe mental retardation continuum, supervisors expressed different skill requirements within categories. Table 5.3 illustrates these variations. Note that 66% of the supervisors from workshops for mildly mentally retarded adults indicated verbal expression to be important compared with the 50% from workshops employing severely mentally retarded adults. By contrast, 72% of this latter group selected gestures as an acceptable mode of receptive communication, compared with 55% from shops working with mildly mentally retarded adults.

TABLE 5.3 COMMUNICATION SKILLS REQUIRED

For entrance into sheltered employment, should an employee be able to communicate basic needs receptively by means of:	Percent of Supervisors from Workshops Serving	
	Mildly Retarded	Severely Retarded
1. Verbal expression	66%	50%
2. Finger spelling	29%	22%
3. Signs	44%	50%
4. Gestures	55%	72%

For some survival skills categories there was general agreement on a single standard. Table 5.4 on disruptive behaviors illustrates this type of consistency. Supervisors from both of the groups preferred the level of 1-2 times per week, although there were substantial proportions of the supervisors who also required the more stringent standard of 0 times per week (33% of the supervisors of mildly mentally retarded adults and 41% for supervisors of severely mentally retarded adults].

TABLE 5.4 LIMITS ON MAJOR DISRUPTIVE BEHAVIORS

For entrance into sheltered employment, should an employee display/engage in major disruptive behaviors no more than:	Percent of Supervisors from Workshops Serving	
	Mildly Retarded	Severely Retarded
1. 0 times per week	33%	41%
2. 1-2 times per week	52%	50%
3. 3-5 times per week	4%	5%
4. 6-8 times per week	0%	0%
5. 9-15 times per week	0%	0%
6. 15 or more times per week	0%	0%

These data underscore the point that what is important for one supervisor or job situation may not be as important for another. Although approximate entry requirements for a given class of jobs can be determined by analyzing data such as these, the unique set of requirements associated with a particular job cannot be specified by using this method. This requires individualized assessment and social validation. These data can, however, be utilized for trainee assessments, as long as you as managing trainer recognize the need for social validation checks once a probable placement is identified. Table 5.5 lists the social survival skills which were identified as important in this survey. At least 90% of the 56 supervisors who were in this study indicated these skill categories to be important ones. The specific behavior standards were identified by the largest proportion of respondents selecting the item as a criterion for entrance.

**TABLE 5.5 BEHAVIOR STANDARDS IN SOCIAL SURVIVAL SKILLS
SELECTED FOR ENTRY BY 90% OR MORE OF RESPONDENTS**

Employees should be able to:

1. Communicate basic needs such as those involving thirst, hunger, sickness, pain, and toileting
2. Communicate basic needs receptively by means of verbal expression, signs, or gestures
3. Communicate basic needs expressively by means of verbal expression or gestures
4. Respond to instructions requiring immediate compliance within 0-30 seconds
5. Respond appropriately to safety signals given verbally through signs or through signals
6. Initiate contact with supervisors when:
 - a. cannot do the job
 - b. runs out of materials
 - c. finishes job
 - d. feels too sick/tired to work
 - e. needs drink, rest room
 - f. makes a mistake
7. Maintain proper grooming by:
 - a. dressing appropriately after using the rest room
 - b. cleaning self before coming to work
 - c. cleaning self after using the rest room
 - d. cleaning self after eating lunch
 - e. eating food appropriately at lunch
 - f. displaying proper table manners at lunch
8. Reach place of work by means of:
 - a. company-sponsored vehicle
 - b. own arrangement
 - c. public transit
9. Maintain personal hygiene by:
 - a. shaving regularly
 - b. keeping teeth clean
 - c. keeping hair combed
 - d. keeping nails clean
 - e. using deodorant
10. Leave job station inappropriately no more than 1-2 times per day
11. Display or engage in major disruptive behavior no more than 1-2 times per week
12. Display or engage in minor disruptive behavior no more than 1-2 times per week

Identifying Vocational Survival Skills

PERFORMANCE SUGGESTED BY STUDY. Vocational survival skills are those behaviors that relate directly to job performance which a trainee must acquire to complete assigned duties successfully. The most immediately apparent of these is attendance. Trainees who do not show up for work cannot meet job expectations, however modest they may be. Other vocational survival skills listed in Table 5.6 are worker behavior categories (but not the performance standards) that at least 90% of the workshop supervisors considered important for entry into sheltered employment.

TABLE 5.6 VOCATIONAL SURVIVAL SKILLS FOR ENTRY SELECTED BY 90% OR MORE RESPONDENTS

Employees should be able to:	Percent of Supervisors
1. Move safely about shop	97%
2. Participate in the work environment for periods of _____	97%
3. Work at a job station continuously for _____	97%
4. Continue to work without disruptions when _____	97%
5. Learn new tasks trained through _____	95%
6. Be absent from work no more than _____	93%
7. Correct work on task after _____	93%
8. Want to work for _____	93%
9. Understand work routine by _____	90%

Again, there was more agreement among supervisors on the importance of different vocational skills categories than on the specific behavior standards required for entrance. There was considerable agreement across the mild-to-severe categories, however, since the only category showing marked differences across groups was Item 7 on correction of work. Table 5.7 indicates that a larger percentage of supervisors of mildly mentally retarded adults required responsiveness on the second correction. These percentages decreased dramatically for the third through fifth, fifth through tenth, and greater correction levels. The supervisors of severely mentally retarded adults, on the other hand, distributed their selections across standards, although the percentages for the greater correction levels

TABLE 5.7 CORRECTION RESPONSE REQUIRED FOR ENTRY

For entry into sheltered employment, should an employee correct work on a task after the:	Percent of Supervisors from Workshops Serving	
	Mildly Retarded	Severely Retarded
1. 1st correction	15%	9%
2. 2nd correction	41%	27%
3. 3rd-5th correction	30%	23%
4. 5th-10th correction	4%	14%
5. More than 10 corrections	7%	18%

gradually decreased in this group. Apparently, supervisors of severely mentally retarded adults were more tolerant in their requests that work be corrected immediately.

For the remaining skills categories in Table 5.6, there was considerable agreement; the same standard received the most frequent selections from both groups of supervisors. Table 5.8 illustrates this consistency. Note that the most frequently selected method for learning new tasks was modeling, with 89% of the supervisors of mildly mentally retarded adults and 77% of the supervisors of severely mentally retarded adults choosing that standard.

TABLE 5.8 TRAINING METHODS PREFERRED FOR NEW TASKS

For entry into sheltered employment, should an employee learn new tasks explained by:	Percent of Supervisors from Workshops Serving	
	Mildly Retarded	Severely Retarded
1. Physical prompting	41%	45%
2. Modeling	89%	77%
3. Verbal description	37%	27%

Combining the behavior categories of Table 5.6 with the most frequently selected standards for those categories produced the vocational survival skills of Table 5.9. This list can guide trainee assessments by indicating, as does the social survival skills list, what skills and behaviors are most likely to be of concern to employers. Although the items on the list were generated by supervisors from sheltered workshops, activity

centers, and developmental centers, it is reasonable to expect these to be minimal requirements for competitive employment as well. Indeed, additional standards of performance for competitive employment can be expected. To identify these social and vocational survival skills, you must conduct the job assessment described earlier and incorporate the procedures outlined in chapter 7. Skills identified during these individualized assessments combined with the social and vocational survival skills listed here provide a base for beginning any vocational training program.

TABLE 5.9 BEHAVIOR STANDARDS IN VOCATIONAL SURVIVAL SKILLS
SELECTED FOR ENTRY BY 90% OR MORE OF SUPERVISORS

Employees should be able to:

1. Participate in work environments for 6-hour periods
2. Move safely about the shop by:
 - a. Walking from place to place
 - b. Identifying and avoiding dangerous areas
 - c. Wearing safe work clothing
3. Work continuously at a job station for 1-2 hour periods
4. Learn new tasks when the supervisor explains by modeling
5. Come to work on an average of 5 times per week
6. Correct work on a task after the second correction
7. Want to work for money/sense of accomplishment
8. Understand work routine by not displaying disruptive behavior during routine program changes
9. Continue work without disruptions when:
 - a. Supervisor is observing
 - b. Fellow worker is observing
 - c. Stranger is observing
10. Adapt to new work environment with normal levels of productivity in 1-5 days and with normal levels of contacts with supervisor in 30-60 minutes

Assessing Trainee Progress

As earlier indicated, assessing trainee progress through social validation during and after training is invaluable. Two types of social validation assessments are necessary: descriptive and comparative. Both assessments involve comparisons between trainee performance and worker performance. Descriptive comparisons are used to evaluate the trainee against a

person who is employed in a similar job. This descriptive comparison is made by having an employer and/or supervisor rate employees on a performance evaluation form (see chapter 7, the Work Performance Evaluation Form). Subsequent to employment, the trainee is then compared to coworkers via the comparative validation assessment process. Here you collect data on similar behaviors (e.g., producing and working continuously) on both the coworker and the trainee and then *adjust* the level of trainee responding to within tolerable and acceptable levels by using the procedures which are detailed in chapters 2 and 3.

DESCRIPTIVE VALIDATION ASSESSMENTS. Although relatively easy to collect, descriptive validation assessment data can be difficult to interpret because supervisors must recall the attributes of an acceptable employee, and then you must compare your trainee's data with these recollections. You must describe trainee skill levels in terms of the original survival skills generated during the job assessment. This process is easier when the supervisor can provide feedback on the relevance of each survival skill as well as the status of your trainee's candidacy for employment. When scheduled frequently and regularly throughout training, these feedback checks will improve a trainee's prospects for placement by helping you refocus training activities on unique demands of a particular job.

COMPARATIVE VALIDATION ASSESSMENTS. The comparative validation assessment is usually more informative than its descriptive correspondent since it relates trainee skills to the competencies of workers actually performing targeted jobs. The employer, supervisor, or coworker compares performances of established workers with those of the prospective employee to determine the relevance of current progress; possibly through an on-the-job training period. To make these comparisons, you must also conduct descriptive validation assessments on the coworker group as you collect data on your trainee's progress. Although this additional procedure may require some reorganization of priorities, the benefits make it worth considering. As previously noted, there are occasions when verbal reports fail to reflect important skill areas for job entry and observations of coworker performance

focus upon relevant behavior and skill areas. This comparative validation assessment is an effective check against the error of misidentification since it determines how *well* the survival skills categories describe an acceptable worker. To make these comparisons, there must be a one-to-one correspondence between each survival skill identified in the job assessment and the items used in the comparative validation assessment.

Another advantage of the comparative validation assessment is that it allows employers to make data-based decisions about hiring trainees after graduation from training. Areas marked by discrepancies between employee and trainee performance stimulate comments from the employer concerning the significance of these deficits. Those that impede placement take priority during subsequent training because all activities focus directly upon the immediate goal of job placement. The employer who has had input and can see the data involved is likely to make a better decision on hiring a trainee.

SUMMARY

This chapter has reviewed the survival skills concept and provided some illustrative examples of both the social and vocational survival skills necessary for entry into sheltered employment and, possibly, competitive employment. A major topic developed was the process of social validation as it relates to the vocational training cycle of survey, train, and place. This approach is aimed at training mentally retarded adults to acquire and maintain employment. Some of the information here is highlighted again in chapter 7 when the social validation effort is detailed in respect to determining the criteria important to the success of the trainee during the placement process.

6

Community Mobility Training

R. Timm Vogelsberg and Frank R. Rusch

Emphasis must be placed on community skills that will allow an individual to function effectively outside the home and the training environment (e.g., schools, workshops, supermarkets, and discotheques). All mentally retarded individuals need training to prepare them to function as independently as possible in the environment that they will eventually occupy. Programs that do not contribute to independent life skills should be avoided, and in the area of transportation training independent mobility within the trainee's capabilities must be stressed.

In this chapter our discussion on community mobility focuses upon: (1) barriers to orientation and mobility training; (2) literature on orientation and mobility training; and (3) training procedures. The first section, barriers to training, covers the traditional reasons that orientation and mobility instruction has not been attempted with mentally retarded individuals. The second section reviews past studies to train handicapped individuals to move about their environments. Finally, the training procedures section lists specific recommendations for conducting orientation and mobility instruction in various settings.

BARRIERS TO ORIENTATION AND MOBILITY TRAINING

A continual barrier to independent skill training in the natural environment is the fear of injury, with overprotectiveness often evident. Perske (1972) discussed the dignity of taking risks of "ordinary life".

Many who work with the handicapped, impaired, disadvantaged, and aged tend to be overzealous in their attempts to "protect," "comfort," "keep safe," "take care" and "watch." Acting on these impulses at the right time can be benevolent, helpful and developmental. But, if they are acted upon exclusively or excessively, without allowing for each client's individuality and growth potential, they will overprotect and emotionally smother the intended beneficiary. In fact, such overprotection endangers the client's human dignity, and tends to keep him from experiencing the risk taking of ordinary life which is necessary for normal growth and development, (p. 29)

Floor and Rosen (1975), investigating the phenomenon of helplessness in mentally retarded adults, concluded that over a period of years these individuals have been conditioned to be dependent or helpless. Service providers have unintentionally deprived them of the right and opportunity to make decisions, which has resulted in their inability to make decisions.

Nihira and Nihira (1975), in a 5-year research effort that examined the factors that jeopardized placements of handicapped individuals in the community, determined that the major risks faced by moderately and severely mentally retarded individuals were those involving bodily harm. This information provides an obvious rationale for encouraging safety skills training in the community, i.e., pedestrian safety skills.

Information provided by the preceding studies reinforces the movement toward direct community involvement of handicapped individuals, particularly mentally retarded persons. If service providers believe that the appropriate life station for mentally retarded individuals is in the natural community leading as normal a life style as possible, they must provide training in the community. The first aspect of community-based training must, of necessity, include orientation and mobility instruction and all the normal risks that everyone faces daily. Otherwise, these people may be restricted to the status quo of sheltered transportation to and from their vocational positions.

ORIENTATION AND MOBILITY TRAINING LITERATURE

The limited literature on mobility training has addressed the utilization of community public transportation services, particularly with the mildly and moderately mentally retarded

(Cortazzo & Sansone, 1969), the blind (Hoshmand, 1975; James & Armstrong, 1975; Miller & Miller, 1976), and the blind, mentally retarded person (Johnston, 1973; McGlinchey & Mitala, 1975). Page, Iwata, and Neef (1976), however, did address pedestrian skills for moderately retarded students. The literature on pedestrian skills for severely mentally retarded students is limited to reports by Sowers, Rusch, and Hudson (1979); Vogelsberg and Rusch (in press); and Vogelsberg (1979). Sowers et al. trained one severely mentally retarded person to ride a bus to and from work. Vogelsberg and Rusch established initial procedures for teaching street-crossing behaviors to three severely mentally retarded, multiply handicapped adolescents. In the Vogelsberg and Rusch study a four-step instructional sequence was initially tried to teach looking in four different directions before crossing the street. This four-step instructional sequence was repeated five times in an attempt to increase the rate of learning the looking sequence when the looking response was not initiated independently by the adolescents. The data clearly indicated that the four-piece instructional sequence was ineffective in promoting increased looking responses. However, when the instructional sequence was divided into two-piece instructional sequences, the adolescents learned the responses to criterion. Repeated practice in the form of two-piece instructional sequences was proven to have a definite accelerating effect upon acquisition of the behaviors in this study and a later systematic replication (Vogelsberg, 1979).

As attention is directed toward community competence and the necessity to teach handicapped individuals to move freely about the environment, initial steps must include exposure to the natural environment and the development of skills related to community mobility. The situation in which the mentally retarded individual attends sheltered employment where she performs relatively meaningless tasks with limited supervision is even further confounded by the fact that the vast majority of these individuals receive sheltered transportation from their residential placement to their sheltered employment and back. The number of individuals who have been considered "mobility limited" varies from a low of about 5 million to a high of 44 million, depending upon who is counting and how the

category is defined. These figures, contained in the 1977 White House Conference on Handicapped Individuals (Goodkin, 1977) included both mentally retarded and aged individuals. Whatever the final figure is, it is evident that there are many mentally retarded individuals who do not have access to their environment in even the most limited aspects.

This chapter assumes that community travel consists of behaviors which should be acquired by all mentally retarded individuals and travel training should be incorporated into the curricula for mentally retarded persons. It also assumes that the majority of mentally retarded individuals presently receiving public assistance of any form are receiving more assistance than is necessary in movement about their educational, vocational, or living situation. The prospective employee can and must learn relatively complex mobility skills (such as crossing streets and riding buses) to become an independent member of society.

Normal developmental activities of children and adolescents learning to move about their environment typically include crawling, walking, negotiating stairs, moving freely about the home, moving about the immediate area surrounding the home, crossing residential intersections, moving freely about the neighborhood, crossing city streets, moving freely about the city, using public transportation, and later driving an automobile. The fact that mentally retarded individuals may not acquire basic mobility skills readily is related to a number of different considerations—a major one being the fact that many such individuals are not given exposure to or an opportunity to become involved in normal developmental activities.

Independent travel skills are basic to the achievement of independence and dignity of any individual. Just as those who work with the blind provide mobility training, professionals concerned with the normalization of mentally retarded individuals must implement specialized programs to teach independent travel skills. The majority of the literature available on orientation and mobility training is related to visually impaired individuals. In these cases such training has traditionally been considered a priority. Unfortunately, mobility training has not been considered a priority training area with other handicapping conditions including mental retardation. Much of the

literature involving the blind, however, can be applied, with adaptation, to emerging programs to train mentally retarded adults in community mobility skills. A brief overview of the most recent research suggesting procedures and practices essential to training orientation and mobility skills will precede a discussion of specifics related to getting to and from work.

Laus (1977) identified the following four basic aspects of existing mobility programs for the blind person which can be used in establishing a program for sighted individuals: (1) terminology (orientation and mobility training versus travel training)—the term orientation and mobility training implies awareness of the entire environment during travel, not just travel training; (2) the role of the specialist and the necessity of a full-time trainer for orientation and mobility instruction; (3) a one-to-one ratio for safety considerations and the capability for necessary repetition; and (4) instruction occurring in the real environment to avoid difficulty generalizing from the artificial setting to the natural setting. Interfering variables such as noise, animals, traffic, and other people must be present during training, or these extraneous variables will have to be dealt with by the individuals after training.

Page, Iwata, and Neef (1976) taught five moderately mentally retarded individuals basic pedestrian skills with the use of an in-class model. These students were taught intersection recognition, pedestrian light skills, traffic light skills, and skills for two different stop sign conditions. Training was conducted in the classroom, but frequent generalization probes in the natural environment showed that students could perform their classroom-learned skills in the natural environment.

In another study involving pedestrian safety skills, Yeaton and Bailey (1978) taught 24 elementary school children to wait at the curb, look all ways, watch vehicle distance, walk, continue to look, and use the crosswalk. They discovered that young children do not use critical street-crossing skills without direct instruction.

Laus (1974) reported information concerning 35 pupils in an inner-city program for moderately mentally retarded persons who were at that time being transported to and from school in a leased van or bus. Community orientation and mobility instruc-

tion was begun by first organizing group activities within the classroom on color recognition, numeral recognition, personal grooming, verbal communication, basic sign reading, counting, and exchanging money. He established the necessity for repetition in learning and one-to-one instructor-to-pupil ratios for safety factors. Mobility skills were taught in the following order: (1) using stop/non-stop sign intersections, (2) traveling to a specific location such as a neighborhood business, (3) crossing controlled intersections of many different types, and (4) traveling independently to and from home and school on the bus. Students learned these skills by exposure to the natural environment with the trainer. To help the students determine where to get off the bus, the trainer identified specific landmarks which would cue them when to alert the driver that they wished to get off. At the end of one school year of orientation and mobility instruction 35 students were traveling independently to and from school by public transportation on regularly scheduled bus routes. Leased vans were no longer required, and transportation costs of \$20,000 were saved.

There are additional curricula available that do mention travel training for handicapped individuals (Bender, Bender, & Valetutti, 1976; Cortazzo & Sansone, 1969; Westaway & Apolloni, 1977), which contain some useful information, but little that is directly applicable without adaptation. Cortazzo and Sansone (1969) described a program of travel training that covered pedestrian skills, as well as riding on trains, subways, ferryboats, buses, and trolleys. They listed seven major phases: selecting trainees; teaching identification fact skills; teaching pedestrian techniques; teaching the travel route; teaching the handling of money; teaching conveyance identification; and counseling parents. Of 378 activity center trainees enrolled in the program over a period of 3 years, 197 learned to travel independently.

Tobias (1963), working with sheltered workshop staff in a situation where no transportation was provided, made it clear that all employees had to learn to get to and from work independently; initially 9 out of 83 employees could travel independently. While parents overwhelmingly rejected travel training as unfeasible and inappropriate, 50 out of 83 employees

learned to travel to and from their sheltered employment.

Kubat (1973), in a similar setting, taught 13 mentally retarded, persons to travel independently to and from a community center. The training was conducted in four separate phases: appropriate bus riding behavior information that was verbally expressed, simulation of the bus route in one of the center vehicles, simulation of activities for the bus ride in one of the center vehicles, and training on the city bus with a staff member.

Sowers, Rusch, and Hudson (1979) used prompts, verbal instruction, and physical guidance to teach a severely mentally retarded adult to ride the city bus to and from work. Their program identified 10 terminal tasks included in bus riding from home to work: (1) crossing controlled intersections, (2) crossing unmarked intersections, (3) using bus tickets and proper identification, (4) walking to the bus from home, (5) identifying the correct bus, (6) boarding, (7) riding, (8) departing, (9) transferring, and (10) walking from the bus to work. Each terminal task was broken into several, discrete checkpoint tasks, and the person learned to ride the bus to and from work independently after only 24 days. The following guidelines were suggested to replicate the program: (1) notify authorities who may have contact with the individual and obtain written consent for training, (2) establish a protocol that can be used if the trainee is involved in an accident or gets lost, (3) write a detailed individual program plan, and (4) collect data daily.

Certo, Schwartz, and Brown (1975) taught 6 severely mentally retarded students how to use a public bus independently to obtain food, clothing, and medical and dental assistance, as well as to reach recreational events. They divided the program into two levels. The first level consisted of the trainees traveling to the destination specified by the teacher. The second level involved problem solving by which the students had to determine their own destinations. Of the 10 students in the program, 6 reached criterion at the second level. The degree of independence from adult supervision was considered the most difficult to teach. In a similar study Carney, Menchetti, and Orelove (1977) taught two moderately mentally retarded women to use a mass transit system, offering a detailed approach on learning to ride the bus.

Finally, Neef, Iwata, and Page (1978) taught five moderately mentally retarded male students each of the components of locating, signaling, boarding, riding, and exiting a bus. The skills were taught sequentially through training procedures of role playing, manipulating the actions of a doll on a simulated model, and responding to questions about slide sequences. They also taught two other students in the natural environment. Although they felt the natural environment training was effective, they considered it to be time consuming and expensive. Taken together, the preceding studies make it explicitly apparent that handicapped individuals, no matter what the considered severity of their handicap may be, can and have learned to travel independently or semi-independently about the community. There is a definite need for refined teaching technology for this effort. The skills are within reach of many individuals who are presently using restricted or no transportation in the community.

TRAINING PROCEDURES

Determining Goals

Determining which aspects of mobility training an individual should receive depends upon that particular individual's situation. If he is presently employed and engaged in some form of restricted transportation (private car, facility transportation, taxi cab, etc.) and his living situation is fairly stable, then the first goal of mobility training should be learning how to get to and from work independently. This is the most functional goal; it involves a behavior that occurs twice daily (to and from work). If there is a form of public transportation available, teach the individual how to use it. In the case of bus training you need to teach: (1) how to determine when the bus leaves; (2) how to get to the bus stop (this would probably include street-crossing skills), (3) how to assure that the bus is the correct one (number or color), (4) how to pay for the bus ride, (5) how to use landmarks as cues for exiting, (6) how to signal the driver to stop, (7) how to get off the bus (and transfer if appropriate), and (8) how to get from the bus stop to the place of employment (again probably including street crossing). If public transportation is not available and the trainee lives too far away to walk,

determine alternate forms of transportation. When helping a trainee decide the best way to get to and from work, you must always attempt to determine the most independent form of transportation possible. This might be riding a bicycle or walking a longer distance in a different direction to attain public transportation. If at all possible, avoid situations in which the trainee is dependent upon parents or her employment situation for transportation. If the trainee does have to accept transportation from other workers (e.g., a car pool), be sure that the trainee knows appropriate social behaviors and contributes a fair share to those providing transportation assistance. In this situation the first training goal might include: (a) always being ready on time, (b) using appropriate social skills, and (c) offering to pay more than people who drive.

SIMPLIFICATION OF GOALS. No matter what the first goal is, the simplest form of training would be traveling from one point to another (i.e., from home to work] and then traveling to other destinations. Training programs that restrict a mentally retarded individual's mobility until he has learned certain prerequisite skills (such as reading a bus schedule] are unnecessarily restrictive. Your first objective should be to teach the individual to travel from one point to another and at the same time to teach functional reading, attending, safety, and other skills within the training program. The first training program may, as a result, take longer, but the skills will become a functional part of the individual's life and will be worth the time and effort. Rather than teaching sight words and other prerequisite skills first, stress immediately teaching the functional life skill while concurrently training other skills that will expand the basic one. An example might be teaching street crossing, pedestrian safety skills, and bus riding at the same time that you are training the way to and from work. This is naturally what the instruction for such an objective must include.

Repeated practice is the fastest way to train an individual to follow one specific route. Training that allows the individual repeated opportunities to practice new behaviors, although artificial and initially time consuming to the trainer and trainee, teaches the skill quickly and ultimately releases the trainer to work with the next individual requiring mobility training.

Making Contacts

Before community training begins, you need to advise the appropriate individuals (mass transit authority, parents, guardians, other trainers, etc.) about the program. Mass transit authority personnel have been extremely helpful to the authors in determining routes, providing special fares, and giving special assistance to handicapped individuals. Oftentimes, bus drivers who are alerted to a training situation will make sure that the handicapped person gets off at the appropriate stop. In some instances, however, you may have to work cooperatively with the bus driver to assure that the trainee does not become dependent upon the bus driver's assistance to get off the bus.

In any form of community mobility training there are obvious risks that everyone moving about the community must face. While these risks are a necessary part of training, you must carefully explain them to parents, guardians, and other trainers before training begins. Emergency procedures must be established in the event that a trainee misses her stop and continues on the bus or gets off at the wrong stop. Those procedures will be covered in more detail later in the chapter. In any case, the training should be agreed upon by responsible individuals *before* the program begins.

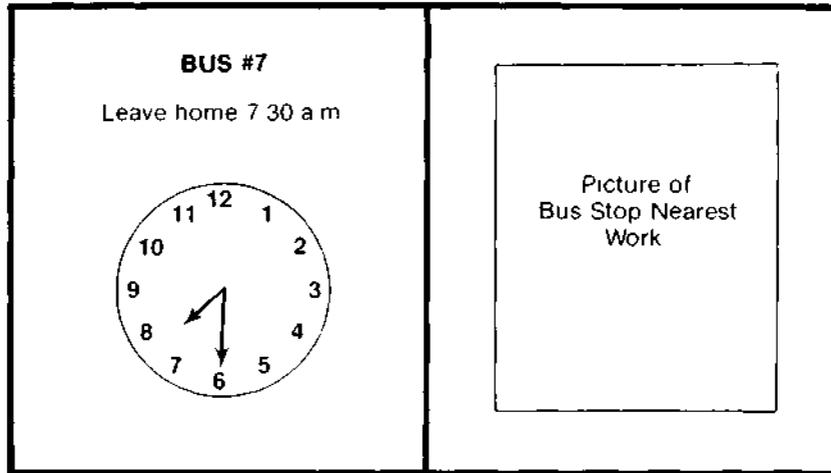
Determining Bus Routes and Schedules

The easiest approach is to begin with one specific route and use the standard bus schedule. You may want to highlight (with a magic marker) one specific bus route to help the trainee to determine his route, or (depending on the severity of the handicap) you may want to develop a specific route card, indicating what time to leave home for the bus stop, what bus to get on, and where to get off. In this more restrictive form of training the route card's composition is determined by the capabilities of the trainee. Factors such as time-telling and reading abilities have to be considered. The trainee does not necessarily have to be able to tell time or to read; the route card could show a clock face and bus number. The trainee could match the clock face on the card to a real watch or clock. That would give adequate information about when to leave for the bus. Similarly, the trainee could match the bus number on the

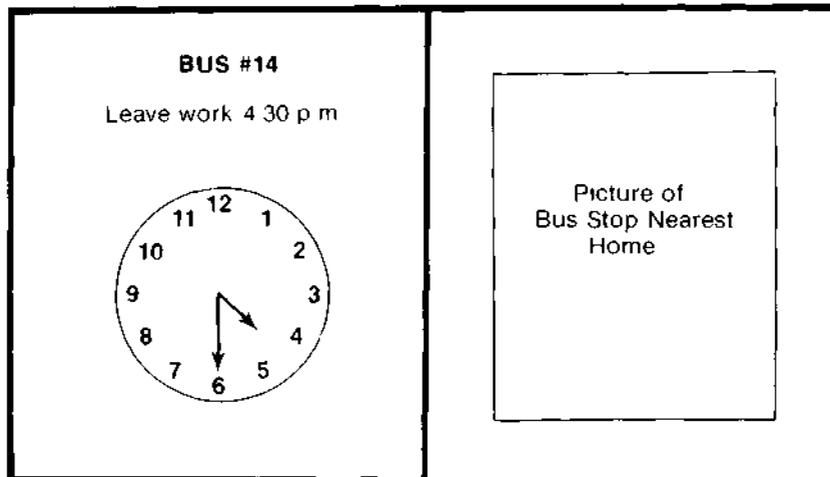
card to the actual bus. You might even have the trainee show the route card to the bus driver to assure that the trainee is on the right bus. A sample route card is shown in Figure 6.1; it must be stressed that the complexity and detail of the route card would be dependent upon the skills of the trainee.

FIGURE 6.1 ROUTE CARD

TO WORK (Front Side of Route Card)



FROM WORK (Reverse Side of Route Card)



Once the trainee has learned, or is learning, to get to and from work, the next step is to teach another route. Probably the next routes to teach are those for obtaining necessary services. Again this is dependent upon the individual's present living situation, but grocery stores, churches, and medical establishments are all destinations that might be appropriate to begin teaching after the trainee has begun to learn how to travel to and from work. If she begins to have difficulty with her first training goal (to and from work) as a result of any new training to new destinations, discontinue training on all but the first priority—to and from work. Training on other necessary destinations can begin again later. The final destinations that you might want to teach would include transportation to and from recreational services. The ordering of training suggested here is: (1) to and from work, (2) to and from places providing necessary services, and (3) to and from recreational services. This order may be altered, however, depending upon specific circumstances. If an individual is having difficulty getting involved in the training or in learning from the training, a possible motivating strategy is to begin training to and from a recreational activity (eating at a restaurant, going to a movie, visiting a friend or relative, etc.). After the trainee has learned these naturally reinforcing skills, you can begin on other functional aspects of community mobility.

Identifying Skills Needed

Many aspects of community mobility training related to crossing the street, orienting to the environment, and riding the bus must be addressed. The first of these considerations is dressing appropriately; if it is raining outside, the trainee needs to realize that he must wear a raincoat or carry an umbrella to avoid getting wet. He will also need some time-telling skills, even if it initially involves only matching a route card to a watch. He must know when to leave home to arrive at the bus stop before the bus leaves and to avoid having to wait too long for a bus to arrive.

In traveling to and from the bus stop, the trainee must know how to stop on the curb, look in all directions, and decide if it is safe to cross the street. There are many different types of intersections that the trainee must be capable of dealing with—

from unmarked ones to those having traffic signals. He must know the implications of specific traffic regulations, such as right turns on red lights mean that a car may come from behind and cross in front of him, even if his own signal is green.

Once a trainee has traveled safely to the bus stop, he must be capable of selecting the correct bus. This can be accomplished in a number of different ways, depending on how the line identifies its buses. Some mass transit authorities simplify training procedures by identifying each specific bus route by a color (such as the Lavender Line). In this situation all the trainee has to recognize is that he must get on the bus of a particular color marking. Other bus lines indicate routes by numbers. Again the individual must be able to recognize which number he wants to get on. As already indicated, he can show his route card to the bus driver as he gets on to assure that it is, indeed, the correct bus.

Also included in the program must be considerations for what the trainee would do: (1) if the bus were late; (2) if the trainee attempted to get on the wrong bus and was told to wait for another bus; and (3) if, due to weather, breakdown, or other variables, the bus did not arrive.

Once a trainee gets on the bus, he must pay the bus driver or show the driver his pass and get a transfer if needed. Then come the aspects of riding a bus appropriately. Within appropriate bus riding are considerations including: (1) what to do if there are no seats, (2) when to give his seat to another passenger (e.g., to a person with many packages or a very elderly person), (3) where to sit so that he can identify specific landmarks to assure getting off the bus at the proper location, and (4) how to ask a passenger to move so that he can get off the bus.

Once off the bus, the trainee must again know pedestrian safety skills to get to and from the determined destination. Again, this is a situation where the trainee must be capable of orienting herself to the immediate surroundings and safely walking to the final destination.

The skill of time management is important. If a particular route has a bus that leaves every 15 minutes during rush hour, then there is little difficulty catching the bus—but catching the bus at the right time to arrive at work on time is a

necessary skill. Again, the route card could be used if necessary. Past programs have taught trainees how to travel to and from specific destinations with the help of route cards. They have continued the training, building the number of different route cards the trainee could use and progressing to the point that the individual could pick up whatever route card was necessary and depart to a destination. Initially, this sounds like an ideal solution, but the route card which increases the trainee's opportunities for community involvement may become too restrictive. Further training to remove the necessity of using the route card is recommended where possible.

Returning from employment, services, or recreation is simply the reverse of the procedures followed to get to a specific destination. The precautionary note here is to assure that the trainee is aware the bus schedules may change later in the day and on weekends.

Using Instructional Procedures

There are two major instructional procedures that the authors have successfully used with mentally retarded adults: graduated guidance and repeated practice. The first procedure, graduated guidance, consists of gradually fading out the amount of instructional assistance until the trainee can perform the skill without assistance. Table 6.1 shows the several different levels of instructional assistance that have been used, in the order of least restrictive (no assistance) to most restrictive (physical assistance) levels.

The approach taken here is to give the trainee the opportunity to perform the skill without assistance and then to provide as little assistance as necessary.

You can begin training community mobility skills by task analyzing the first skill in question. The task analysis used for crossing uncontrolled intersections may consist of: (1) walk to the curb, (2) stop at the curb, (3) look behind, (4) look in front, (5) look to the left, (6) look to the right, (7) wait if cars are coming and then look again, or (8) step off the curb, (9) walk quickly across the street, and (10) step up on the opposite curb. These are the basic behaviors that you will want the trainee to demonstrate without assistance.

TABLE 6.1 LEVELS OF INSTRUCTIONAL ASSISTANCE*

<u>Code</u>	<u>Level of Assistance</u>	<u>Trainer Performance</u>	<u>Amou Physic</u>
5	No Assistance	Trainee completes the task independently in response to the natural environment while trainer observes.	None
4	Verbal Cue	Trainer stands behind the student and gives verbal cues.	None
3	Verbal Cue and Model	Trainer models behavior while repeating verbal cue with a point prompt.	None
2	Verbal Cue and Partial Physical Assistance (Prompts)	Trainer repeats verbal cue while directing the trainee with small physical prompts.	2 Seco
1	Verbal Cue and Total Physical Assistance	Trainer repeats verbal cue and physically guides the trainee through the entire behavior.	Total

*Begin at #5, wait 3 seconds, and go to the next level of assistance if the response is inco

After you have task analyzed the skill, determine the instructional procedures for teaching each of those separate steps. Using graduated guidance, first give the trainee an opportunity to perform the behavior, wait a predetermined amount of time (3-5 seconds), and then, if the behavior was not performed correctly, give a verbal cue to perform the behavior ("Listen"). If the trainee still has not performed the behavior, give a verbal cue ("Watch me"), model the behavior, and then ask her to perform the behavior. If the trainee still cannot perform the behavior, give a verbal cue ("You do it") and assist with small physical prompts. Again, if the behavior is not demonstrated correctly, give the next verbal cue ("Do it with me") and physically assist the trainee through the entire sequence. The instructional procedures also serve as the error correction procedures (i.e., if the trainee does not perform the behavior appropriately, you eventually put the trainee through the required steps; *the trainee always performs the behavior*—with or without assistance).

These levels of instructional assistance, beginning with no assistance and ending with total physical assistance, give the trainee the opportunity to perform the skill with as little assistance as necessary. Once she performs the behavior, you go on to the next step of the task and begin the procedure again.

Teaching trainees to cross uncontrolled intersections appears to be facilitated if the student is first asked to perform each of the 10 steps in two-step instructional sequences (dependent upon trainee capability) (Vogelsberg, 1979). An example would be, "Walk to the curb and stop." Provided this verbal cue, the trainee is expected to walk to the curb and stop. If she does not walk to the curb and stop, provide verbal *cue and model*. Say, "Watch me, I'm going to walk to the curb and stop." After this verbal cue and *model*, walk to the curb and stop and then turn to the trainee and say, "Now, you do it; walk to the curb and stop." If she still does not perform the two steps, say, "You do it; walk to the curb and stop." With this verbal cue, give her a physical prompt or nudge in the direction of the curb. If she still has difficulty, say, "Do it with me; walk to the curb and stop." With this verbal cue, take the trainee's arm and walk to the curb with her and stop (*total*

physical assistance). Continue these levels of instructional assistance (graduated guidance) until the trainee has gone through all 10 steps in the task, two steps at a time.

Levels of instructional assistance are also an easy way to collect data on trainee progress. As the trainee performs, you can mark down the number of the level of assistance required for the skill. In other words, if the student had to be given total physical assistance through the walk to the curb and stop, she would get a one (1) on both of those behaviors for that trial. It's best to train street crossing where the trainee can get *at least* four consecutive opportunities to cross the street. This form of repeated practice helps her learn the behaviors in less time.

Depending upon the trainee, all the different levels of instructional assistance noted here may not be necessary. Many trainees considered handicapped and in sheltered employment situations can learn community mobility skills through the use of only verbal cues and occasional positive feedback on performance. The emphasis must be on safety. Learning the importance of looking for cars, waiting for cars to pass, looking for cars again, and walking quickly across the street are major skill objectives.

Some trainees require all the levels of instructional assistance listed and even more powerful techniques. Repeated practice on each two-piece instructional sequence immediately after the trainee has tried it has proven successful in the past. An example is asking the trainee to look behind and in front for cars. If he cannot perform these two steps without physical assistance, say, "Let's practice; look behind and in front," and then physically guide the trainee through looking behind and in front five times before moving on to the next two steps. Once the trainee is performing each of the steps in this task analysis to a verbal cue, you might want to have the trainee practice all the steps of the skill (i.e., once the trainee has crossed the street, you can again say, "Let's practice," and walk back and forth across the street with the trainee, going over looking and deciding to cross as it is performed). An example of a recording form for crossing uncontrolled intersections is presented along with an example of a chart for recording trainee performance in Figure 6.2 and Figure 6.3, respectively.

FIGURE 6.2 CROSSING UNCONTROLLED INTERSECTION RECORDING FORM

Crossing Uncontrolled Intersection Recording Form

Date _____ Phase _____ Session _____
 Trainer _____ Trainee _____

INSTRUCTIONAL ASSISTANCE

Code	Level of Assistance	Specific Physical Assistance	Verbal Cue
5	None	None	None
4	Verbal Cue	None	LISTEN
3	Verbal Cue and Model	Point Prompt	WATCH ME
2	Verbal Cue and Prompt	Nudges	YOU DO IT
1	Verbal Cue and Physical Assistance	Total	DO IT WITH ME

	TASKS/TRIALS	TRIALS								Total	Average
		1	2	3	4	5	6	7	8		
APPROACH	1 Walk to curb										
	2 Stop at curb										
LOOK	3 Look behind										
	4 Look in front										
	5 Look left										
	6 Look right										
STEP	7 Wait for cars										
	8 Step off curb										
WALK	9 Walk quickly across street										
	10 Step on curb										

The simplest way to chart daily data for trainees is to average that day's performance and plot the average on the chart. When you or other trainers examine the graph, you can determine that the trainee performed a specific behavior at a 3.5 level of instructional assistance, for example. If a trainee performed at a 3.5 level for the walk to the curb and stop behaviors, you will know that he is performing those behaviors with verbal cues and models for the most part (a 4 = verbal cue; a 3 = verbal cue and model).

Different levels of instructional assistance may be impractical in some situations, for example, during getting on or off a bus. In such a case you might have to abbreviate procedures to include only a verbal cue, and if the trainee does not perform the requested behavior, then physical assistance. In this situation recording data could be simplified to: a three (3) for behavior performed without any assistance, a two (2) for those performed to a verbal cue, and a one (1) for those requiring physical assistance. This simplification still gives the trainee the opportunity to perform the behavior independently and is more practical if many passengers are waiting to get on or off the bus. Some training programs have contacted the mass transit authorities and received permission to practice specific behaviors on a bus that is not in use. This allows the trainer and trainee to repeat the behaviors many times before the actual bus ride. It is still recommended that the trainee and trainer practice in situations as close as possible to the real one. The further training is removed from the natural environment (where the trainee is eventually expected to demonstrate the skill), the more difficult it will be for her to move into that setting.

An example of a Bus Riding Recording Form (Figure 6.4) and chart (Figure 6.5) follow. Both have been filled in to illustrate a probable recording and charting example.

Depending on the situation and the trainees involved, you may want to combine street crossing and bus riding data forms and/or adapt them as necessary. These examples are provided as indicators of possible approaches for teaching initial community mobility skills. They could easily be simplified, e.g., marking + or - to indicate correct or incorrect and then graphing the percent done correctly. Or, they could be made much more

FIGURE 6.4 BUS RIDING RECORDING FORM

Bus Riding Recording Form

Date Jan 18, 1979 Session Number 17
 Trainer Timm
 Trainee Harold P.

INSTRUCTIONAL ASSISTANCE

Code	Level of Assistance	Amount of Physical Contact	Verbal Cue
5	No Assistance	None	None
4	Verbal Cue	None	LISTEN
3	Verbal Cue and Model	None	WATCH ME
2	Verbal Cue and Physical Prompt	2 Seconds	YOU DO IT
1	Verbal Cue and Total Physical Assistance	Total	DO IT WITH ME

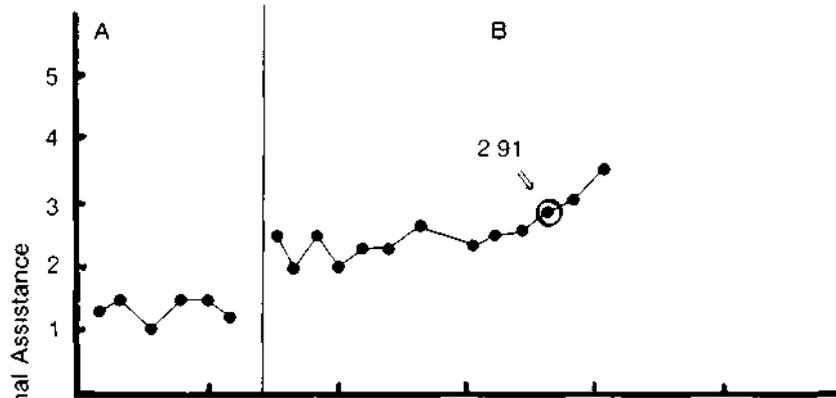
TRIALS

	TRIALS										Step Total	Mean Response	
	1	2	3	4	5	6	7	8	9	10			
WAITING FOR BUS	1 Checks route card	2	1	2	3							8	
	2 Checks for fare	3	3	4	3							13	
	3 Walks to bus stop	5	5	5	5							20	
	4 Watches for bus	4	4	4	4							16	
	5 Identifies correct bus	3	3	3	2							11	
	6 Waits for bus to stop	1	1	3	2							7	
	7 Allows passengers to exit	1	1	1	1							4	
	8 Walks up steps	3	3	4	4							14	2.91
RIDING AND DEPARTING BUS	9 Stops by fare box	1	1	2	2							6	
	10 Shows driver route card	4	4	4	5							17	
	11 Gets off bus if incorrect	/	/	/	/							/	
	12 Inserts fare in fare box	3	3	4	4							14	
	13 Walks towards rear of bus	4	4	5	5							18	
	14 Sits in unoccupied seat or	4	4	4	4							16	
	15 Stands facing front, holding pole	3	3	4	4							14	
	16 Watches for landmarks	4	4	4	5							17	
	17 Pulls signal cord when close	2	2	3	3							10	
	18 Walks to bus doors	4	4	4	4							16	
	19 Walks down steps	5	5	5	5							20	
	20 Steps off bus	5	5	5	5							20	3.81
Total =												3.4	

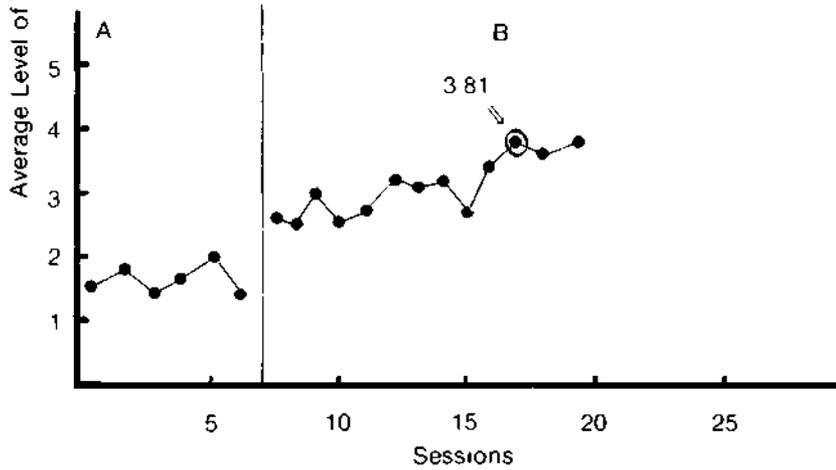
Note: Circled Numbers Represent the Average Level of Instructional Assistance Required and Are Charted in Figure 6.5

FIGURE 6.5 BUS RIDING CHART (FILLED IN)

Waiting for the Bus



Riding and Exiting the Bus



Note: A. One bus trip to and from work
 B. Four bus trips to and from work (repeated practice)
 ○ Circle indicates average level of instructional assistance necessary for Session Number 17 as recorded in Figure 6.4

complete by including a more detailed task analysis involving all the skills from time telling, clothing selection, walking appropriately, and riding appropriately. The form used is dependent upon the amount of information that you desire.

Enlisting Support from Parents, Guardians, and Trainers

The amount of training that one person can give to an individual is usually limited by staff-trainee ratios and other considerations. Therefore, enlisting the support of parents, guardians, and other trainers is extremely important. When they go places with the trainee, they, too, can use developed procedures to help teach the targeted skills. The following situation recently occurred in a school setting where street crossing training was being conducted. The students went on frequent field trips, but during them they were being directed across the street rather than being given the opportunity to cross by themselves. Then the trainers showed these teachers the instructional procedures, and they began teaching street crossing on the field trips, augmenting the regular mobility skills instruction. The same principle applies in the home or residential setting the trainee may be in. If there are other service-oriented individuals who work with your trainee, show them the procedures and encourage them to teach the trainee when the opportunity presents itself. This requires a larger time commitment on your part, but the extra effort is well worth it since it helps the trainee to gain the capability of moving about the community independently.

Consent Procedures. Depending upon the type of training occurring, there may be a need for a signed consent form to assure that everyone involved in the training knows what is going on. The basic elements of "informed consent" include: (1) an explanation of the purpose and the procedures to be followed, (2) a description of any discomforts or risks to be expected, (3) a description of any benefits to be expected, (4) an offer to answer any inquiries concerning the procedures, and (5) a statement that the individual involved in the training is free to withdraw from the project at any time.

If the preceding consent elements are to be in written form the following three items should also be included in the document: (1) a phone number of the managing trainer or individual who will answer queries, (2) a statement that the trainee and parents or guardians may have a copy of the consent form, and (3) the explanation of procedures provided verbally to the trainee. A consent form that has been used by the authors is shown in Figure 6.6.

Obtaining Medical and Physical Limitation Information

Prior to beginning mobility and orientation training, you must obtain pertinent medical and physical information. You will need to pay particular attention to visual and auditory deficits and any physical mobility difficulties. These limitations should not restrict a trainee from engaging in community mobility training any more than absolutely necessary, but they are indicators of specific difficulties that you must be aware of. You may have to devise instructional procedures that do not aggravate or interfere with these limitations.

Determining Liability Coverage

Before training begins, you also need to address liability concerns; it is a good idea for you to have some form of personal liability insurance. Liability will vary according to your situation and the state in question. Information about liability can be obtained from administrative personnel in the situation and/or a telephone call to state administrative personnel (State Board of Education, Division of Mental and Developmental Disabilities, Division of Vocational Rehabilitation, etc.).

Establishing Emergency Procedures

All possible difficulties should be considered and emergency procedures determined before training begins. Examples of possible difficulties might include: (1) trainee is involved in an automobile accident; (2) trainee runs away; (3) trainee fails to arrive at a predetermined destination; (4) trainee or trainer is taken suddenly violently ill; (5) bus does not arrive; (6) a violent storm occurs while the trainee is in the community (e.g., tornado, thunderstorm); (7) and many other possibilities that

FIGURE 6.6 COMMUNITY TRAINING CONSENT FORM

Community Training Consent Form

Managing Trainer: John Doe
Progressive Vocational Training Program
Main Street
Central, Illinois 33322
(123) 456-6201

I hereby give permission for _____ to participate in a community mobility training program. I understand that the purpose of the program is to teach _____ the skills that should eventually enable him/her to move about the community as independently as possible. I also understand that these skills will be a necessary component of his/her vocational opportunities.

I have been informed that the instructional procedures are designed so that complex learning tasks, such as crossing the street and riding the bus, will be broken down into simple subtasks such as crossing uncontrolled intersections. I realize that the subtasks will be learned in a sequence in order to be sure of successful performance. In some cases, where _____ is learning a motor skill, the trainer will prompt or physically guide _____ until he/she is able to perform the activity without assistance. I also understand that at all times the program will be under the supervision of _____.

I understand that progress records will be kept in order to have an accurate basis for evaluating training. Additional measures may include tests of desired behavior or goals which _____ should reach during various levels of training. In order to gather this information for records, trainers will observe _____ and I have been informed that I may review any of the information that is collected.

I have had opportunity to ask questions. I understand that the managing trainer is available to address any questions regarding the program's training and evaluation procedures.

I understand that I will be given a copy of this consent form.

Signature of Parent/Guardian Date

Signature of Managing Trainer Date

Copies supplied
parent/guardian
trainee's file

Signature of Program Director Date

may occur specific to the training setting. You will need to consider each possibility and set a procedure to handle it. Many of the situations would include procedures that might apply to other situations.

Providing Feedback

Feedback regarding community mobility training must be provided to both the trainee and to individuals who interact with her. There are many ways to provide feedback; the most natural forms include your expressing to the trainee and to others satisfaction with the progress. You should ask parents or guardians to visit the center, workshop, or employment site to watch the training in progress so that they will know what is going on and will have immediate information about how the trainee is doing. One parent commented that seeing her daughter's ability to travel independently about the community changed her expectations of what her daughter could learn to do. It opened the door for many future opportunities that the woman had not considered possible for her daughter.

Developing an Information Card

Any individual, mentally retarded or not, should carry basic identification information in case of an accident or medical emergency. The information should include name, address, phone number, and person to contact in the event of an emergency. Many mass transit authorities offer identification cards. Likewise, many state automobile driver's license departments provide nondriver identification cards that can be acquired for a small fee. Critical information on medication or physical condition should also be carried by the individual.

Implementing Follow-Up

The final and most important consideration is follow-up. Once a trainee has learned the basics to community mobility and is given the opportunity to travel about the community, you must check on a regular basis to assure that the trainee is still maintaining acquired skills and has not forgotten safety considerations. This form of follow-up is to assure that he is still capable of moving about the community independently and

safely. The question of safety must be emphasized—not only would an accident be a tragic thing to happen to the individual but it also would be a reflection on the training procedures and might reinforce past attitudes that mentally retarded individuals cannot learn community mobility skills. If there is ever a safety problem, or even the suspicion of one, you must return to the training situation and monitor that trainee's performance until all safety concerns have been satisfied.

SUMMARY

This chapter has covered three major aspects of training someone to get to and from work. Barriers to orientation and mobility training, orientation and mobility training literature, and training procedures were covered. The assumption that the majority of mentally retarded individuals *have the right* and the capability to learn to move about their environments with more freedom cannot be stressed too much. Orientation and mobility instruction should become an integral training objective for all handicapped individuals. As soon as public schools and training centers begin travel training at an early age, placement and follow-up personnel will be able to concentrate on the major responsibilities of their positions: assuring that mentally retarded individuals maintain new vocational positions.

SECTION 3

Performance in the Placement

Job placement and follow-up are probably the least well conceived and researched areas in vocational (re)habilitation (Brolin, 1976). Yet, they constitute the major criteria for evaluating the success or failure of our vocational training efforts. Parnicky (1964) suggested that a poorly trained person who is well-placed may remain employed longer than a person who is well trained but poorly placed.

Factors affecting actual job placement are many, and an attempt to attend to each of them may not be possible. The most effective and efficient effort may be to focus upon the key factors that in all likelihood account for most of the successes or failures in placement. These key factors can be identified through the process of social validation. Furthermore, they can be identified in terms of specific social and vocational survival skills and job performances which can be trained, maintained, and applied across tasks, managers, and settings during the process of placement and follow-up.

Chapter 7 describes the placement process as being a re-enactment of the vocational training cycle: survey, train, and place. In addition to reviewing the meaning and significance of this three-part strategy, this chapter covers the placement continuum, how to assess job requisites through a placement survey, how to use the job analyses data to assess and train, and how to conduct an actual job placement. Chapter 8 describes how the procedures that define the behaviorally based program apply with equal validity to the process of retraining once placement has occurred. As with previous chapters, this one provides specifics on how to assess, prescribe, train, and evaluate, but this time in the context of a real job with the real consequences being success or failure in the community. In this

final and concluding statement on vocational training, the chapter departs significantly from the concerns of previous ones by focusing upon the subjective and nondata-based evaluations and judgments of community persons who actually determine a person's success or failure. The chapter presents a strategy for taking these subjective judgments into consideration in a systematic problem-solving approach that results in new training outcomes and activities that will satisfy the survival requirements of a particular placement.

7

Placement

A basic characteristic of American society is the existence of a broad hierarchy of vocational alternatives closely linked to social status and material rewards. While considerable time and effort have been expended on the analysis and development of ranking systems for these alternatives, it is beyond the scope of this text to present those studies reporting which factors contribute to differences in occupational status. The authors believe that potential exists within each individual and each individual's potential should be expressed to the maximum extent possible. The basic premise is that skills are learned, and as one acquires new skills he should be presented new and more challenging opportunities to use them.

This chapter introduces the procedures necessary for a managing trainer or placement coordinator to develop a comprehensive placement program that complements the development of a behaviorally based vocational training program. The importance of placement cannot be underestimated; the overall success of any training program most likely will be evaluated by determining how many people were placed into the community through the program. After a general discussion of placement, the habilitation trilogy of survey, train, and place is discussed in terms of placement. The placement continuum and a brief overview of conditional and unconditional placements is followed by a thorough outline of the steps for conducting a placement survey. This chapter presents a Work Performance Evaluation Form including data available from the placement surveys. This chapter also includes a five-item checklist describing the final steps of the placement process.

IDENTIFICATION OF POSSIBLE JOB PLACEMENTS

Many alternatives exist for identifying possible job placements. The most basic criterion that should be considered first is the desire of the individual to be trained and ultimately placed. In some instances a simple interview with the trainee will provide the necessary information for placement. In many cases, however, the mentally handicapped person may not be aware of existing options because she has not had much prior experience in alternative occupations. In any case you, along with the parent or guardian, must help in making decisions about probable placements.

Realistically determining which job is going to best suit a particular person should be based upon the individual to be placed, the tasks to be performed on the job, and the willingness of the employer and coworkers to allow training to occur on the job. Other criteria used by the authors include benefits (e.g., health and dental insurance and retirement, job turnover) and information gained from talking with the veterans; that is, persons who have held the jobs. Rusch, Thompson, Sowers, and Connis (1977) described their efforts to place moderately retarded young adults into dishwashing, janitorial, and bussing positions in the Seattle, Washington, area. The major concern of Rusch and his colleagues was to acquire for trained adults jobs that offered benefits. Benefits were seen as a major criteria for placement consideration because each of the adults initially referred for skill training was supported by state and federal programs (e.g., public aid and supplementary security income). Once each person was placed into competitive employment and making a minimum wage, he or she eventually became ineligible for support. The major consideration here was determining whether the person was, in fact, "handicapped" anymore. Acquiring and holding a job suggested to supporting social service agencies that the person was not handicapped anymore, on the basis of an employability criterion.

Much of the literature on occupations in the American labor force has focused upon the growth occupations, particularly the professionals, the managers, and the technicians. These are the occupations to which most American youth aspire. However, recent assessments of the structure of jobs

indicate that many millions of Americans occupy positions that do not typically fit into the preferred category (Wool, 1976). Wool suggests that as blacks, immigrants, farm-to-city immigrants, women, and youth move out of low-level manpower positions a very large surplus of occupational opportunities will exist. Low-level manpower positions include, for example, janitors, cooks, construction laborers, kitchen workers, laundry and dry cleaning operators, and maids. With the exodus from these positions, inevitably the demand for low-level workers will surpass the supply of those qualified to and interested in performing these jobs. With this possible imbalance of supply and demand, it is quite likely that a major restructuring of these jobs will occur: improving minimum wage and occupational health and safety standards, creating training programs to incorporate hard-to-employ persons, and discontinuing previous job discrimination.

Talking with persons who have held a particular job can lead to continuing or discontinuing pursuing a possible job placement. Information related to job turnover, tolerance for absenteeism and tardiness, willingness to allow restructuring of job tasks (e.g., putting up color codes on certain knobs and doors), tolerance for allowing a new method that yields the same product more efficiently, and stability of job (i.e., is the position seasonal) are all employment characteristics that the job veteran can supply. This is invaluable initial information.

HABILITATION TRILOGY IN PLACEMENT

Three main elements of the vocational training cycle (chapter 5) are survey, *train*, and place. These elements constitute a habilitation trilogy which in this context is dependent on social validation. Here the focus will be on placement. There are two strategies for implementing the habilitation trilogy in job placement. The approach taken by the authors requires either (1) developing a training program from which you place trained people or (2) placing people directly into the job and training them. The sequence of implementing the three elements differs in these approaches, but the basic idea of using social validation to prepare a person to maintain employment is the same. Although both methods have advantages and disadvantages,

the discussion here will concentrate on the advantages of developing a training program from which to place the individual. The first advantage of this method is that the mentally retarded person is trained in each of the major social and vocational skills before job placement. That is, behaviors are trained and maintained in the training setting before placement. The primary concern here is that if one began the actual job without any initial training, it would be quite possible that he would, while attempting to acquire the many new skills necessary to maintain the job, fall far short of the expectations of the employer and coworkers. Second, training programs are set up to train. Therefore, those in the training setting will most likely be more tolerant of errors and expect to give occasional intensive training on single skills for extended periods. The third advantage, which is perhaps the most important one, is related to the overall purpose of this text: to increase the opportunities for competitive employment of mentally retarded people. Much has been written about mentally retarded people and employers' expectations of them. Essentially, it is common to find employers holding lowered expectations regarding the potential of these individuals. If a trainee fails in a job placement in which the employer already had low expectations, the training-placement program has contributed to a detrimental self-fulfilling prophecy. To give employers and coworkers the opportunity to exclaim, "I really didn't think it would work," rather than, "I am really impressed; I just happen to have another vacancy coming up," would only continue to delay the incorporation of mentally retarded people into the mainstream of society. Therefore, all details of a program must be geared to making successful placements, not only for the sake of particular individuals but also for the well-being of all mentally retarded adults.

The habilitation trilogy of survey, train, and place—particularly when the elements are used in that order—directs the efforts of everyone to those skills necessary to acquire and maintain employment, allows a formal training period prior to placement, and places when there is a consensus that the trainee is ready to try self-management in the work setting.

This habilitation trilogy closely resembles the educa-

tional paradigm. Instruction in schools relies upon assessing pupil skills, specifying instructional objectives, developing instructional material and procedures to reach those objectives, and evaluating pupil outcome. Similarly, the vocational training cycle in emphasizing survey, train, and place suggests assessing job requisites, assessing trainee skills in those job requisites, specifying instructional objectives, developing materials and procedures to obtain those objectives, and evaluating outcomes.

A behaviorally based vocational training program's activities always originate and terminate in the community. Program activities begin by surveying possible job placements and end with the placement of a person in one of these jobs. A behaviorally based training program exemplifies the habilitation trilogy of survey, train, and place.

PLACEMENT CONTINUUM

There are four major placement alternatives available to the mentally retarded person, which constitute a continuum. These include the pre-workshop placement, the workshop placement, the post-workshop placement, and competitive placement. Pre-workshop placements include work activity centers and developmental centers, which provide a therapeutic modality rather than a gainful employment experience. The workshop has had an ever-changing role in the experience of mentally retarded people since the first such venture for blind persons began near Boston in 1838. Workshops have been long-term placements for persons with low potential for advancement into the competitive, public sector; these groups have served as evaluation facilities, adjustment centers, and employment agencies. Subcontract and salvage efforts represent the majority of the work done in these settings. Typically, the average salary made by a workshop employee is less than half that of minimum wage (Pomerantz and Marholin, 1977). A comprehensive study of workshops made for the Department of Labor suggests they do little to advance their employees into occupations paying minimum wages (Greenleigh Associates, 1975). The clientele of workshops has been changing drastically, however, in the past decade. Today, more severely physically, mentally, and multiply handicapped adults are in them.

Post-workshop placements include sheltered industry and enclaves. The major difference between the sheltered industry and enclaves and the workshop is the emphasis on making a profit and paying minimum wages. Also, post-workshop placements may use a longer work day versus the 4-to-6-hour work day of most workshops. Enclaves usually consist of a small group of handicapped persons working in an industrial setting under direct management.

Competitive placements are those which pay at least minimum wage, are sought after by a larger portion of the work force, and are typically located within the mainstream of society. For example, a competitive placement may include boxing at a neighborhood supermarket, doing janitorial work at a hospital, or packaging tissue products at a large paper factory. A distinguishing characteristic of competitive placements is the reliance upon the skilled or unskilled laborer to get a job done for money. Profits made in light industry or in service-oriented, privately owned businesses are crucial to the life of that industry or service. Thus employees are expected to produce.

CONCEPT REVIEW

The Placement Continuum

Pre-workshop	Workshop
1. Activity center	1. Subcontracts
2. Developmental center	2. Salvage
Post-workshop	Competitive
1. Sheltered industry	1. Service
2. Enclaves	2. Light industry

CONDITIONAL AND UNCONDITIONAL PLACEMENTS

It is possible to negotiate a conditional or an unconditional placement in any of the four placement alternatives. The conditional placement may take the form of a part-time, graduated placement. Here the trainee could be spending 30

hours per week in a sheltered workshop and 10 hours per week in an enclave. A second conditional placement could include a trial placement wherein the trainee is placed into competitive employment for 20 days before actually being hired.

Unconditional placements can be either informal or contractual. The informal, unconditional placement represents the type most likely obtained by most readers of this text. A job is found, applied for, and obtained. The contractual agreement usually includes a contract for services rendered. Here, the employee completes a specific task for a preset amount of money. Catering, janitorial, and gardening services represent such contractual arrangements.

PLACEMENT SURVEY

You can conduct a placement survey by phone or mail. Both options should be considered as only initial efforts. If a party contacted by either means expresses interest, you will need to make a formal analysis. The obvious advantage of mailing or telephoning is that a very large number of prospective employers can be contacted with very little cost. A major disadvantage of the mailed survey is relying upon the prospective employer to return information or make contact with the placement staff. Similarly, a major disadvantage with telephoning is that the respondent can, with little effort, indicate unwillingness to become involved. The emphasis here will be on a telephone survey as a follow-up of the mailed survey.

Mailed Survey

A mailed survey conducted by Rusch and his colleagues in the Seattle area resulted in the initial employment of three trainees from a food service vocational training program (Peterson, Sowers, & Rusch, 1977). One hundred restaurants and food service establishments were contacted via a letter detailing the purpose of the training program, the training approach, the placement and follow-up services, and some of the benefits of hiring mentally retarded adults. A sample letter now used at the University of Illinois, in an experimental vocational training program also set up by Rusch (1979a), follows (Figure 7.1).

FIGURE 7.1 LETTER FOR SURVEY

The University of Illinois has developed a program to train mentally retarded adults to work in food service related jobs. The purpose of this letter is to introduce and describe this vocational training program and to interest prospective employers in the Champaign-Urbana area in hiring people who have graduated from the program

The training is being accomplished in a food service setting at one of the residence halls at the University of Illinois which serves approximately 2000 students daily during the breakfast, lunch, and dinner hours. Persons in the program are trained to wash dishes, sweep and mop floors, clean large walk-in refrigerators, and perform approximately 20 other tasks during a typical work day. Once the trainees in the program can perform each of the tasks consistently, quickly, and independently, they are "job-ready"

Placements thus far have been on campus in several residence halls. These placements are proving to be very successful, and we are now looking forward to expanding our efforts by placing more people into positions away from the University. All follow-up services are offered by the training program staff, indefinitely

Employers are finding many advantages to hiring graduates of the program. These include less absenteeism and greater longevity of employment. Further, for the employer, this is an opportunity to provide a service to the community and state by integrating a unique individual into the community; for the employee, self-worth and a degree of independent functioning are realized.

For more information about our program and what we have to offer you, please complete the enclosed, self-addressed, and stamped postcard and mail it to us or call 123-4567. Thank you for your interest in hiring graduates from our program.

Sincerely,

The letter says that a stamped reply card is enclosed. Prior experience has indicated that a survey card such as the one in Figure 7.2 is more likely to be filled in and returned than a lengthier form without a stamp and return address.

Both the sample letter and the card can be changed to reflect different training efforts and vocations. You will need to keep a record of responses from both interested and uninterested persons. The Placement Survey Response Record (Figure 7.3) is a good form for this record keeping.

It indicates the name of the respondent, date the card was returned, analysis of the card (i.e., which boxes were checked), the response (i.e., interested, not interested), date the response was made by the training program, the outcome, and the name or initials of the staff person who was responsible for logging all the information.

For employers who telephone in their interest, use the Placement Survey Response Record. During the telephone interview, program personnel should ask questions corresponding to each of the five boxes. During the conversation, a date should be set up to complete a Job Analysis Survey. Similarly, employers who have indicated by mail their willingness to hire graduates or learn more about the program should also be contacted and asked to complete a Job Analysis Survey (see further details on this form later in the chapter).

Telephone Survey

Before ruling out those employers who failed to respond to the mailed survey, call them. A telephone survey is sure to clarify whether the card was lost or whether in any case they do have an interest in participating. Try the Narrative Questionnaire Telephone Survey (Figure 7.4) for this. It reiterates the goals of the program, training involved, and successes, to date.

This telephone survey provides much information that should be documented and kept in the training program records. Documenting the information is a simple matter of indicating the agency's name, date called, staff person conducting the interview, and responses made to all the questions (Figure 7.5). Comments may be added at the bottom.

FIGURE 7.2 SURVEY REPLY CARD

Survey Reply Card

Please check the appropriate box(es) below

I have hired mentally retarded individuals in the past

The advantages of hiring are obvious, and I am interested in hiring a trained employee

Immediate positions are available

I would like to learn more about this program. Please call _____
(person)
_____ at this phone number _____
between the hours of _____ and _____

I am not interested in more information

Name of Agency

Date

FIGURE 7.4 NARRATIVE QUESTIONNAIRE TELEPHONE SURVEY

Narrative Questionnaire Telephone Survey

My name is _____ I am representing the _____ vocational training program. Our program trains mentally retarded adults to work in the _____ industry. Over the past few years, we have developed a very effective program capable of training people to be very efficient and dependable workers. We have several individuals at present who are ready to enter an employment setting.

Several weeks ago, we sent you a letter describing the program. *Did you receive the letter* (Question 1) *?

The purpose of the letter was to find out *if you are interested in hiring trained workers from our program* (Question 2) and *if you have any immediate openings* (Question 3).

If Interested

Would you mind answering a couple of questions to give us a better idea about the needs of your agency? ⁹

How many workers do you employ (Question 4) ?

How much experience do most of your employees have when hired (Question 5) ⁹

Have you ever employed a mentally retarded person (Question 6) ?

Were you satisfied (Question 7) ?

How much time does it usually take to train a new employee to do a job independently (Question 8) ?

Do you have a position opening (Question 9) **?

Is there a time when I can call or meet with you regarding information about the position (Question 10) ?

If No

Is there a time when I might call you regarding future openings (Question 11)

If Not Interested

Have you ever employed a mentally retarded person (Question 6) ?

Comment on response Thank you for your time

FIGURE 7.5 TELEPHONE SURVEY RECORD

Telephone Survey Record	
Agency _____	Date _____
Interviewer _____	
Responses to Questions	
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____
11	_____
Comments	

CONDUCTING A JOB ANALYSIS SURVEY

After completing a mailed survey and a telephone survey, you will need to conduct a job analysis at those workshops, agencies, or firms that have expressed interest in hiring. This analysis benefits the training program by acquiring information on the new work environment, tasks to be completed, conditions of employment, and worker requirements. Figure 7.6 presents a sample Job Analysis Survey-Agency Overview.

Agency and Position

The name and address of the firm, the type of industry, i.e., the activities of the firm, are important initial areas of inquiry. Remaining areas are the name and title of the person interviewed, the classification title of the position (Dictionary of Occupational Titles, U.S. Department of Labor, U.S. Employment Service, 1977b), total number of employees and number of employees in the prospective position, and the stability of the job. Stability of the job refers to the turnover in personnel holding the position, specifically, how many people have held the job in the past 2 years. If the position was "just created," it is important to document that.

New Work Environment

Section 2 includes inquiries related to speed, supervision, and the social environment. Specifically, the type of agency, the importance of speed, number of people the trainee will be working directly with, amount of supervision available, probable cooperation of other coworkers, social environment, importance of physical appearance, and the physical conditions are areas requiring particular attention.

TYPE OF AGENCY. The type of agency refers to the volume of work and variety of tasks completed. It is important to know whether the volume is large or small and whether the tasks performed are quite variable or steady.

IMPORTANCE OF SPEED. The method(s) used to monitor speed of task completion is very important. For example, is the work to be done a small part of the whole task on an assembly line or is it an individually performed task with a simple count at the end of the work shift made to determine speed? Both

FIGURE 7.6 JOB ANALYSIS SURVEY—AGENCY OVERVIEW

Job Analysis Survey—Agency Overview

Agency and Position

Name of Agency _____
Address _____

Type of Industry _____

Name and Title of Person Interviewed _____

Classification of Position (DOT) _____
Total Number of People Employed _____ Employees in Position _____
Stability of Job _____

New Work Environment

Type of Agency _____

Importance of Speed _____
Number of Coworkers Trainee Will Work Directly With _____

Supervision Available _____

Probable Cooperation of Other Employees _____

General Social Environment _____

Physical Appearance _____

Physical Conditions _____

examples suggest very different methods of feedback to the trainee(i.e., continuous throughout the shift versus once at the end of the shift).

NUMBER OF COWORKERS TRAINEE WILL WORK DIRECTLY WITH. The number of coworkers the trainee will be working with directly refers to the number of people who count on her performance, as well as the number of coworkers located within the immediate vicinity of the trainee.

SUPERVISION AVAILABLE. Wolfensberger (1967) indicated that one factor contributing to job placement failure was insufficient training for a specific job. As new contracts or tasks are required of any trained worker, a certain amount of retraining and supervision is necessary for handling the new components of the contract or task. The amount of supervision available should indicate whether training opportunities exist.

PROBABLE COOPERATION OF OTHER EMPLOYEES. The work setting is probably composed of several employees, some of whom are likely to assist the trainee when a new task is being performed or when the work has sped up considerably and she, as well as everyone else, falls behind.

GENERAL SOCIAL ENVIRONMENT. You need to note whether the work setting is friendly, relaxed, formal, or tense and hostile. You can get this information by touring the work setting and initiating comments and questions. Notice if there are smiles, return comments, and answers.

PHYSICAL APPEARANCE. The physical appearance of employees is an important area of concern. You need to know if uniforms, special clothing, hair nets or hats, and gloves are required for the job. If the majority of men or women wear jeans, loafers, and t-shirts, the prospective employee should wear similar clothing.

PHYSICAL CONDITIONS. Make detailed notations on the noise level, heat level, size of the work space, presence of stairs and ramps, and other physical characteristics.

Job Task Analysis

Regardless of the placement selected for the trainee, it is important to conduct a Job Task Analysis to ascertain which job behaviors are required.

JOB BEHAVIORS. All jobs require the completion of a series of tasks. You will need to ask precisely what a person will do when he is placed in a particular job. For effective training all the tasks must be listed according to the time and sequence in which they are to be completed. For example, a janitor may be required to complete each of the tasks in Figure 7.7 within the time frame suggested along the left-hand column.

FIGURE 7.7 JANITORIAL TASKS

6:30 a.m.	Arrive, put coat away, put on jacket, put on apron, wash hands	9:30	Replenish janitorial cart
		9:45	Clean dining room
6:35	Punch in	10:30	Lunch
6:36	Set up janitorial cart	11:30	Empty garbage
		12:00	Sweep stairs
6:45	Clean north hallway	1:00 p.m.	Vacuum foyer
		1:30	Break
7:00	Clean south hallway	1:45	Vacuum waiting room
7:15	Clean dining room	2:00	Clean rooms 222-225
8:00	Put in wash	2:30	Clean rooms 303-306
8:30	Break		
8:45	Finish wash (dry)	3:00	Clean supply area
9:00	Mop kitchen	3:30	Punch out

While the tasks in Figure 7.7 may be relatively easy for many trainees to complete, some trainees would need special training on subtasks in order to do the tasks. The task wash *hands*, for example, contains several subtasks to be accomplished successfully. A trainee having difficulty with hand-washing might need training in the 15 probable subtasks shown in Figure 7.8.

Worker and job behaviors can be obtained through an initial informal interview at the prospective placement site. You can conduct this initial evaluation via verbal reports and via

FIGURE 7.8 WASHING HANDS SUBTASKS

- 1 Move to sink
2. Grasp right handle (cold water)
3. Turn right handle clockwise 45 degrees
- 4 Grasp left handle (hot water)
- 5 Turn left handle counter-clockwise 45 degrees
- 6 Wet hands
7. Push soap button with palm of one hand
- 8 Rub hands together
- 9 Rinse surface of both hands, simultaneously
10. Turn hot water off
11. Turn cold water off
- 12 Grasp paper towel
- 13 Pull paper towel out of paper towel holder
14. Dry surface area of both hands, simultaneously
- 15 Place paper towel in garbage can

behavioral observations of employees completing their tasks as indicated in chapter 5. The informal interview and observation will help you determine if the placement alternative is realistic. For example, if the routines of workers are not established and workers are relying upon the demand characteristics of the job, the placement will probably not lend itself to a sequential task analysis and subsequent task-by-task routine to be carried out by the trainee each day. The third section of the Job Analysis Survey (illustrated in Figure 7.9) includes complete task-by-task analysis of the prospective job.

Conditions of Employment

Figure 7.10 contains all the components of the Job Analysis Survey that refer to the conditions of employment. Such information as the length of the work day, the pay scale, criteria for promotion, union operating, and insurance benefits is contained in this section. The information required in many categories needs no explanation, so not all items are discussed.

FIGURE 7.9 JOB ANALYSIS SURVEY—JOB TASK ANALYSIS

Job Analysis Survey—Job Task Analysis

Approximate Times	Task Performed
1 _____	1 _____
2 _____	2 _____
3 _____	3 _____
4 _____	4 _____
5 _____	5 _____
6 _____	6 _____
7 _____	7 _____
8 _____	8 _____
9 _____	9 _____
10 _____	10 _____
11 _____	11 _____
12 _____	12 _____
13 _____	13 _____
14 _____	14 _____
15 _____	15 _____
16 _____	16 _____
17 _____	17 _____
18 _____	18 _____
19 _____	19 _____
20 _____	20 _____

Comments _____

FIGURE 7.10 JOB ANALYSIS SURVEY—CONDITIONS OF EMPLOYMENT

Job Analysis Survey—Conditions of Employment

Work Hours Per Day _____ Per Week _____

Shift _____

Pay Scale _____

Bonuses/Overtime Pay _____

Union Operating

 Name _____

 Address _____

Union Representative

 Name _____

 Phone Number _____

Travel Requirements _____

Training _____

Criteria for Promotion _____

Insurance and Other Benefits _____

SHIFT. A regular shift of 8 a.m. to 4 p.m. is most likely to be offered; however, a swing shift (e.g., 4 p.m. to 12 p.m.), graveyard shift (e.g., 12 p.m. to 8 a.m.), or modified shift (e.g., 2 p.m. to 10 p.m.) may be available for the trainee.

PAY SCALE. You will need to obtain an actual dollar figure for the position of interest. If possible, attach a copy of the pay scale to the Job Analysis Survey.

BONUSES/OVERTIME PAY. The availability and opportunity for bonuses and overtime need to be specified.

TRAVEL REQUIREMENTS. Sometimes it is necessary to travel from one location to another to complete a task or travel from a parking lot to a job station (e.g., in a larger airport the trainee may be required to ride a tram to the job station). In either case a special notation is needed here. Also, the availability of public transportation should be documented. The distance, time, and number of transfers must be described in detail here.

TRAINING. In some cases the employer will require a new employee orientation that may include overviewing potential safety hazards, fire evacuation plans, health rules, and any agency policies. The employer may also require the new employee to visit all departments of the agency.

CRITERIA FOR PROMOTION. It's important to document the criteria for promotion. These criteria may be based upon time with the agency, work completed, or both.

INSURANCE AND OTHER BENEFITS. All benefits should be outlined. These include: the insurance-company and its medical/dental plans, accidental death plans, dependent coverage, as well as retirement plans, vacation, and sick days per month.

Worker Requirements

The final section of the Job Analysis Survey that needs attention is that on worker requirements. It covers previous educational requirements, prior experience, any licenses or certificates required, special social skills, special vocational skills, tests, and the most frequent reason past employees were fired or left the job. Also included are the name and phone number of the person the training program should contact to conduct a formal on-the-job analysis (see Figure 7.11).

FIGURE 7.11 JOB ANALYSIS SURVEY—WORKER REQUIREMENTS

Job Analysis Survey—Worker Requirements

Education Requirements _____

Previous Experience _____

Licenses/Certificates _____

Special Social/Vocational Skills _____

Tests _____

Reasons for Previous Firings/Abandonments _____

Contact Person

Name _____

Address _____

Phone _____

EDUCATION REQUIREMENTS. Specify the level of prior education required and the reason for this requirement. Often the level of education is associated with probable general skills level (e.g., cooperative and compliant). If this is the case, determine if it is possible to waive the general educational requirements in favor of the more specific skills desired. It is also possible that on-going educational attainment is a requirement of the position. Furthering education may take the form of agency short-courses or formal enrollment in a technical school. Either is crucial to the trainee's success and must be noted.

PREVIOUS EXPERIENCE. Closely allied with educational requirements may be previous work experience. The employer may wish to know if the prospective employee has been employed before (1) to determine if the person has a record of absenteeism or failure, or (2) if she will be best placed in a more demanding position within the agency. Encourage the employer to discuss these concerns and document them.

LICENSES/CERTIFICATES. Any special food handlers' permits, training certificates, and state or county certificates required by the employer should be listed here.

SPECIAL SOCIAL/VOCATIONAL SKILLS. Your analysis of the job will contain a formal analysis of all social and vocational skills necessary for successful job maintenance. These social and vocational skills may include all the skills overviewed in chapter 5 with no special emphasis placed on any special skill. However, the employer may indicate that speed, quality, and friendliness are "absolutely critical." Make an initial inquiry into "which skills are *really* important."

TESTS. If all employees have been required to take an entrance test, note this fact and try to obtain the test. The employer may be reluctant to allow the actual test[s] to leave the work setting. In these cases you can at least attempt to see the test(s). Particular attention should be paid to whether the tests are administered via paper and pencil or via interview. If a test is administered via paper and pencil, ask if the instrument can be given verbally or through the use of signing. Emphasize that the prospective employee is capable of taking a test but that he cannot write or print the answers or cannot read.

REASON(S) FOR PREVIOUS FIRINGS/ABANDONMENTS. The employer that is reluctant or vague in listing reasons why previous employees were fired or failed to return to work should receive special attention. If there is a high turnover, it may be due to unrealistic expectations of the employer, low wages, no advancement opportunities, or other conditions that would adversely affect the trainee. In any case, the reasons should be listed whether vague or specific (e.g., "Did not work fast enough," "Bothered the ladies").

CONTACT PERSON. Of course, it is important to complete the survey by getting the name and phone number of the person to be contacted for future visits.

After the Job Analysis Survey has been done, you will need to complete a Job Placement Information Form and place it in the trainee's file. Figure 7.12 illustrates the form components.

ANALYSIS OF EMPLOYER, SUPERVISOR, AND COWORKER CONCERNS AND EXPECTATIONS

After the Job Analysis Survey is conducted, an analysis of the expectations of the employer, supervisor, and coworkers is made. Specific expectations and concerns expressed by the employer, supervisor, and coworkers should be noted and incorporated. You can obtain these concerns and expectations by referring to the "Reason(s) for Previous Firings/Abandonments" on the worker requirements section of the Job Analysis Form (Figure 7.11) and by noting the characteristics and qualities that are singled out during the initial interview or a tour of the agency.

Before the Job Analysis Survey is completed, ask directly what characteristics and qualities the employer expects from the ideal employee. These should be noted on an Ideal Employee Characteristics Form (Figure 7.13). This form allows for the ordering of five expectations and five concerns expressed by an employer, supervisor, and/or coworker. Also, there is space for other expectations and concerns to be documented.

FIGURE 7.12 JOB PLACEMENT INFORMATION FORM

Job Placement Information Form

Trainee's Name _____

Agency Name and Address _____

Employer's Name and Phone _____

Direct Supervisor's Name _____

Date Job Available _____

Position _____

Salary _____

Hours _____

Additional Information _____

FIGURE 7.13 IDEAL EMPLOYEE CHARACTERISTICS FORM

Ideal Employee Characteristics Form

Interviewee _____ Date _____

(Circle one) employer supervisor coworker

Interviewer _____

EXPECTATIONS (List according to order presented by person interviewed)

1 _____

2 _____

3 _____

4 _____

5 _____

Others _____

CONCERNS (List according to order presented by person interviewed)

1 _____

2 _____

3 _____

4 _____

5 _____

Others _____

USE OF THE WORK PERFORMANCE EVALUATION FORM

After doing a Job Analysis Survey of the prospective position and the analysis of the model employee (Ideal Employee Characteristics Form), you need to develop a Work Performance Evaluation Form. This form displays some of the major social skills and vocational skills mentioned in chapter 5. It should also contain those expectations and concerns most likely expressed by either the employer, supervisor, and/or coworker (i.e., special considerations). The sample Work Performance Evaluation Form (Figure 7.14) lists five social skills, four vocational skills, and four special considerations. Each skill is to be rated by an employer, supervisor, and/or coworker.

Validation by Employing Staff

Before the form is actually used by any of these persons, it must be socially validated by each. This validation is made by having each rate current employees holding positions that are being considered by the training program. If the position is vacant, the validation is completed on other employees working in similar positions, performing similar tasks.

Before the form is validated, the employer, supervisor, and/or coworkers are informed of the 7-point rating scale, the social and vocational skills, and the special considerations. The special considerations should be highlighted to the validators since these items are the exceptions and concerns expressed by them during the initial Job Analysis Survey. Tell the employer, supervisors, and/or coworkers that the validation they are about to do is very important. Explain that the form contains suggested skill areas and that they will be validating the skills further by adding and/or deleting other skills or existing skills. Also, tell them that the form is to be completed once a week for a 3-4 week period *before* actual placement of the trainee. During this time, you as managing trainer will collect the forms, process the data, and provide feedback on the data to the training program and the prospective employer at the end of the validation period. Also, any changes or problems will be discussed at the end of the period.

FIGURE 7.14 WORK PERFORMANCE EVALUATION FORM

Work Performance Evaluation Form

Employee _____

Evaluator's Name _____

(Circle one) employer supervisor coworker trainer

Job Site _____

Skills considered essential for successful employment are listed below. Please rate the employee on the following 7-point scale.

Rate Interpretation

7—Excellent —exceeds expectations for employability
 6—Very Good —exceeds most expectations for employability
 5—Good —meets expectations for employability
 4—Fair —meets most expectations for employability
 3—Satisfactory —less than adequately meets expectations for employability
 2—Poor —barely meets expectations for employability
 1—Unsatisfactory—clearly does not meet expectations for employability

1.0 SOCIAL SKILLS (Circle one)

1	1	Communicates Basic Needs (thirst, hunger, pain, toilet)							
			1	2	3	4	5	6	7
1	2	Communicates Basic Needs Receptively and Expressively (by means of verbal expression, signs, or gestures)							
			1	2	3	4	5	6	7
1	3	Initiates Contact with Supervisor(s) (requests help, work, feedback)							
			1	2	3	4	5	6	7
1	4	Interacts with Supervisors and Coworkers (complies, initiates, and returns greetings, smiles, laughs, not disruptive)							
			1	2	3	4	5	6	7
1	5	Grooming and Personal Hygiene (dresses appropriately, clean, neat, eats appropriately)							
			1	2	3	4	5	6	7

Work Performance Evaluation Form (Continued)

- 2.0 VOCATIONAL SKILLS** (Circle one)
- 2.1 *Produces at an Acceptable Level* (completes all assigned tasks, completes tasks within allotted time) 1 2 3 4 5 6 7
 - 2.2 *Produces at an Acceptable Standard* (completes tasks to acceptable standards alone, with someone else, in a group) 1 2 3 4 5 6 7
 - 2.3 *Works Continuously* (keeps busy, finds work to do, works when observed) 1 2 3 4 5 6 7
 - 2.4 *Following Directions* (corrects mistakes, works faster, stops work, learns new tasks) 1 2 3 4 5 6 7
- 3.0 SPECIAL CONSIDERATIONS** (Agency Recommended Additions)
- 3.1 1 2 3 4 5 6 7
 - 3.2 1 2 3 4 5 6 7
 - 3.3 1 2 3 4 5 6 7
 - 3.4 1 2 3 4 5 6 7

Major Strengths Not Shown Above

Improvements Needed

Comments

COLLECTION OF FORMS. Before collecting the forms, call ahead and indicate that you are coming by to pick up the forms. At the site check to be sure all items are circled and the top of the form is completed. Before leaving, also ask the employer what major strengths are not covered by the form and what improvements might be made.

DATA ANALYSIS. At the conclusion of the validation period you should summarize the data by averaging the ratings and expressing the range of those ratings for each of the social skills, vocational skills, and special considerations. Also, compute a total score for the social skills, vocational skills, and special considerations. These ratings will be used later for comparison purposes in prescribing additional training *before placement* and in follow-up procedures.

FEEDBACK. All the data should be presented to the evaluators at the end of the validation period. Each should be asked if she or he believes the information describes the agency accurately. If the data are descriptive of the agency, you have a good indication of the expectations the organization is going to hold for new employees. If a validator indicates that the data are not accurate, you will need to go over the form with that person to work out discrepancies. Dealing with these discrepancies may require revising information on the form or discussing possible inaccuracies in the validator's perception involving a particular skill. Whatever the case, note on the record the feedback from everyone. Including everyone in the validation effort will not only enhance accuracy at this point but will also increase the likelihood of cooperation during follow-up. If there is not consensus at this point, a series of behavioral observations may be necessary.

Behavioral Observations at the Employment Site

Actual on-the-job behavioral observation for 2 to 3 consecutive days should be made to identify any discrepancies between the managing trainer and the agency staff or discrepancies that might exist among the agency staff on a particular skill. For example, you might have noticed that employees provide feedback to one another 2-3 times per day; however, the

employer believes this is the job of the supervisor only. It is also possible that there is not agreement on which tasks should be performed. In some cases a partial-shift observation may be enough to bear out the discrepancy; however, in most cases a whole-shift observation will be required. If there is a discrepancy involving which tasks should be performed, an entire 8-hour shift observation is needed.

FINAL STEPS OF PLACEMENT

The job analysis is the basis for beginning and ending a trainee's participation in the training phase of the program. Entering trainees are assessed on the skills and criteria important to a particular job. Trainees are evaluated on these skills to determine the extent to which their skills match the expectations described in the job analysis. Data collected on trainee work behaviors during training provide the basis for initiating the placement process. Five final steps are necessary to make a placement. They include contacting the employer, reviewing the job analysis, contacting the parents or guardians, interviewing for the job, and contacting the placement committee.

Step 1: Contacting the Employer

The first step of initiating a placement is contacting the employer and indicating your willingness to place a graduate from the training program. The discussion should center around describing the general abilities of the prospective employee, the probable starting date, and a date when you can sit down with the employer and review the entire Job Analysis Survey.

Step 2: Reviewing the Job Analysis Survey

All aspects of the Job Analysis Survey and the resulting Work Performance Evaluation Form should be reviewed. The purpose of the review is to determine if any of the conditions of employment or worker characteristics have changed. Any behavioral observations made should be reviewed. This review will promote the employer's expectations for accurate assessment of behaviors and attitudes in the work setting. Finally, two dates should be set up. One date is to review the Work Performance Evaluation Form and the characteristics of the new

employee, as well as to answer any questions with the staff at the placement site. The second date is the day the trainee will first report to work. The Work Performance Evaluation Form review should cover similar data obtained by the training program using the same form. These data should be compared with those gathered on potential coworkers at the prospective placement site. The procedures for conducting a performance evaluation will be presented at length in the next chapter.

The characteristics of the prospective employee must be reviewed with prospective staff. In particular, the competencies should be highlighted first and followed by a discussion of the person. The discussion of competencies should include a thorough, but brief, overview of all the social and vocational skill areas the prospective employee has mastered. You will need to pay particular attention to the special considerations determined by the employer, supervisor, and/or coworker(s) (Figure 7.14). For example, you may need to emphasize the trainee's motivation, attendance, and ability to get along with people as special considerations. The means by which the prospective employee gets to and from work should also be discussed. Other categories that should be reviewed include medical history, family history, and personal characteristics. The medical history may include previous seizure activity, medication (type and dosage), and any prosthetic devices the trainee may be required to use in working at a task (e.g., clamps, cribs, and specially designated carriages). A discussion of the family should include present living arrangements and parents'/guardians' names and occupations. Personal characteristics that might be reviewed are current hobbies and interests, means of communication, and the method that should be used to train new tasks. You may instruct the employer to provide (1) preinstruction on what is expected, (2) a model of how to perform the task, (3) three opportunities to perform the task with direct feedback on errors and correct completion, and (4) occasional rechecking to determine if the task is being performed accurately for one week.

Step 3: Contacting Parents or Guardians

All aspects of the placement need to be discussed with the parent(s) or guardian. These areas include a description of the

potential work environment, tasks to be completed, conditions of employment, and worker requirements. The advantages to the prospective employee and to the family (or group home) should also be reviewed. Advantages for the trainee include an opportunity to (1) work in a setting as close to normal as possible, (2) develop greater self-worth, and (3) begin to develop to his fullest potential through employment. Finally, the parent or guardian should be invited to the potential placement setting and provided a copy of the Job Placement Information Form (see Figure 7.12).

Step 4: Interviewing for the Job

Three distinct areas require attention in interviewing for the job. These are: the preinterview, completion of application forms, and the interview. The preinterview primarily includes arriving at the placement site, checking in, and waiting. You should accompany the prospective employee. Considerations to be anticipated before going to the site include: how to negotiate ramps, elevators, and doors; arrival approximately 10-15 minutes before the formal interview; and waiting etiquette. Waiting etiquette may include checking in with the secretary/receptionist, smiling, shaking hands, and possibly looking through magazines, newspapers, or agency brochures.

Liberty, Rusch, and Lovitt (1977) sought to train moderately retarded adults to complete an application form. The adults were unable to read or write and had received no previous training on filling out applications. The results of the study suggested that applicants carry an information card complete with name, address, and social security number, rather than spend a month or more learning to fill out a form since completing forms was a low-frequency event, compared to learning to produce, riding buses, and other behaviors. It's best for the forms to be picked up in advance and completed by the parent or guardian, completed by the managing trainer just before the interview, or completed by one of them and returned subsequent to the interview.

The prospective employee will need to rehearse the interview. Ask him the most frequently asked questions during an interview. Sowers, Rusch, Connis, and Thompson (1977)

trained prospective employees to answer 10 frequently asked questions in food service settings. Results of the study concluded that repeated practice and systematic feedback were necessary to train the prospective employees to provide the necessary information and to use complete sentences in doing so. For example, for the question, "What is your name?" the prospective employees were trained to provide the necessary information (i.e., "Gary") in a complete sentence, "My name is Gary." By reviewing the application, you can anticipate the questions that need to be rehearsed. The trainee must be instructed to answer questions directly. Also he should be trained to ask when he will start, what the starting pay will be, what the benefits include, and if it would be possible for him to get a tour and a complete overview of the responsibilities of the position. *Do not interview without providing the prospective employee training in answering questions, conversing, and asking questions/*

Step 5: Contacting the Placement Committee

Concurrent with the above final steps to job placement you as managing trainer should initiate a meeting of the placement committee. The purpose of the meeting is two-fold. First, progress toward placement and the placement should be reviewed in respect to the previously stated placement recommendation made by the committee. Second, the placement committee should be told what procedures will be taken to insure continued employment.

CONCEPT REVIEW

Five Final Steps to Placement

1. Contact employer
2. Review job analysis survey
3. Contact parents or guardians
4. Interview for the job
5. Contact the placement committee

SUMMARY

This chapter has provided an extensive step-by-step overview of those procedures a training program must take in preparing the trainee to seek, apply for, and secure employment. The following areas were covered: identification of possible job placements, selection of probable job placements, surveying of job placements, and types of placements. The mail and telephone surveys were outlined, and instructions for conducting a job analysis were given. While much of the previous text has emphasized direct observation of behavior, this chapter tended to incorporate social validation (by the employer, supervisor, and coworker) of those social and vocational skills necessary for successful placement. Enlisting the assistance of the employer, supervisor, and coworker was further delineated in the development of a work performance evaluation scale. The final steps of the placement process were enumerated. With efforts to incorporate the mentally retarded adult into the mainstream of society via placement along the vocational continuum, the attention of the training program must, necessarily, turn to helping the trainee maintain her job through follow-up efforts. These efforts are more fully described in the next chapter.

8

Follow-Up

Placing a mentally retarded adult in the labor market is not the final responsibility of a behaviorally based vocational training program. While each of the preceding chapters focused upon the many essential characteristics of a behavior analytic approach to vocational training, this chapter relies heavily upon social validation in an attempt to help the trainee maintain employment. Remaining employed rests upon many factors, most of which are related to the consumer's satisfaction with the new employee and the efforts the training program makes to ensure the placement is working for everyone concerned. Social validation, in the context of employment, refers to the acceptability of someone's social and vocational behavior. Recently, social validation has surfaced as a means of evaluating whether behavioral changes are important to the consumer for which those anticipated changes are intended (Kazdin, 1977; Wolf, 1978). Kazdin (1977) has proposed that behavioral changes be considered important if the training program has brought the trainee's "performance within the range of socially acceptable levels, as evidenced by the ... peer group, or if the behavior is judged by others as reflecting a qualitative improvement on global ratings" (p. 427).

The employer, supervisor, coworker(s), and new employee all form parts of a very complex, intricate social arrangement based upon expectations. This chapter takes into consideration these expectations by presenting detailed follow-up practices to ensure consumer satisfaction. This chapter begins by identifying six functions of a follow-up. It then describes the procedures to be used in developing a follow-up program. Two types of follow-up schedules are discussed. Prioritizing those deficits in need of remediation for which

objectives must be specified and implementing the follow-up program are outlined, with final emphasis placed on decreasing follow-up support and establishing maintenance schedules.

FUNCTIONS OF A FOLLOW-UP PROGRAM

There are several functions of a follow-up program, which delivers services after a trainee has been placed. These functions include: (1) identifying problems early, (2) providing on-the-job intervention, (3) seeking validation by significant others, (4) planning interventions by others, (5) fading follow-up checks, and (6) evaluating adjustment.

Identifying Problems

One key function of a follow-up program is to identify problems in need of remediation. This is particularly important since a good deal of time and effort will be spent, at least initially, to determine if the new employee is valued by others in the placement setting. Oftentimes, employers and supervisors have lowered expectations of mentally retarded workers and therefore perceive that these workers are not as competent as their coworkers. This perception is especially common prior to and immediately after placement. Consequently, mentally retarded workers are checked very closely. This close scrutiny, in turn, leads to demands for job performance which may be inadvertently greater than the demands placed on the coworkers. Then if the mentally retarded worker cannot meet these increased demands for job performance, the employer's and/or supervisor's low expectations may be confirmed. This situation can become a self-fulfilling prophecy. When this situation continues, the worker herself may perceive her abilities as not good enough for the job, when in fact they are adequate. Follow-up procedures provide a means of identifying and dealing with this and other problems before they undermine any chance of success.

Providing On-The-Job Intervention

Very often the new employee will require some training on the job after placement. If occasional training is available via the follow-up program staff, the chances for long-term employ-

ment are increased. For example, mentally retarded workers frequently solicit reinforcement from coworkers, supervisors, and employers immediately after placement from a training program. Workers who have been trained in a setting in which there is a frequent schedule of reinforcement often actively seek reinforcement in the new placement setting. The rate of asking for feedback is often so high that it may become annoying to the regular staff. In some cases, employers, supervisors, and/or coworkers misinterpret the situation and believe that the worker is asking for directions. Whatever the case, the regular staff may feel as if they are spending an inordinate amount of time training the new worker. Having the program staff do occasional on-the-job training helps to avoid this potentially detrimental situation.

Seeking Validation by Significant Others

Training programs developed to facilitate the training of social and vocational survival skills are often based upon input from employers, supervisors, and/or coworkers. As mentioned before, the standards for job performance in *theory* do not always match the standards in practice. The outcome is that the new worker may spend *too* much time working on a task which was trained according to objectives set from an inefficient task analysis. After placement, workers need to be taught strategies for cutting corners without sacrificing critical aspects of job performance. Feedback from the staff can lead to a more realistic task analysis and improved output. In addition, only feedback from the employing staff will validate whether the program's training efforts are influencing the quality of work.

Planning Interventions by Others

It is not possible to intervene *every time* the new employee requires new training or retraining on a task. Therefore, it should be spelled-out very early in the placement stage that the employing staff will need to occasionally train the new employee to acquire new skills or eliminate unwanted ones. If there will be on-the-job training, it is important to teach the trainee to respond to the training strategies he is likely to

encounter in the placement setting. Before placement, you will need to teach the trainee to be responsive to a demonstration and a simple corrective feedback, which a coworker can make.

Fading Follow-Up Checks

Many vocational educators believe that follow-up is the core of a vocational training program. Determining when to fade out follow-up checks *without* losing acquired, maintained, and generalized social and vocational survival skills is the most important aspect of follow-up support. No behaviorally based vocational training program is successful if loss of behavior results in loss of job.

Evaluating Adjustment

There are several sources from which you can determine if the follow-up efforts are working. Parents, guardians, employers, supervisors, coworkers, graduates, and many others are all likely sources for determining how well the worker is adjusting to placement. Each source should be considered invaluable to the overall efforts. It is, for example, absolutely essential to work with parents once their son or daughter has been placed. Mentally retarded workers who have never managed money should, as a result of placement, be receiving substantial wages. Parents can let you know whether this money means anything to their son or daughter. It may be necessary to arrange shopping trips, outings to the movies, and dinners out, with the new employee relying upon her own money. This may be required for trainee education, as well as for program evaluation. In addition, these trips may be necessary for the parents to believe that their son or daughter has adjusted to being placed in a new occupation.

CONCEPT REVIEW

Functions of Follow-Up

1. Identify problems
2. Provide on-the-job intervention
3. Seek validation
4. Plan intervention by others

5. Fade follow-up checks
6. Evaluate adjustment

DEVELOPMENT OF A FOLLOW-UP TRAINING PROGRAM

Two probable events will occur once a trainee has been placed. He will either meet the expectations of the employer, supervisor, and/or coworker or he will *fall short* of expectations held by one, two, or all of the people associated with the employing agency. While it is possible for a graduate of the training program to do extremely well after being placed, suggesting little, if any follow-up, it is probable that most graduates will require some form of follow-up services. These services may take the form of occasional visits, on the one end, to extensive visits, on the other. Whatever the case, these contacts will most likely be efforts to provide additional training. While the remainder of this chapter deals almost exclusively with discrepancies between expectations and skill deficits, it should be remembered that: *every time a follow-up contact is made, whatever the reason, strengths of the new employee should always be discussed by the follow-up personnel and members of the employing agency!*

Stressing strengths is critically important. All too often people get so involved with a particular problem, such as how someone eats during the lunch break, that they overlook all the competencies of that person. While there is some thought that the more competent someone is the more incompetence will be tolerated, this has not been the experience of the authors and their associates. Stated differently, if someone does not perform, he will most likely be terminated in favor of someone who will. On some occasions minor problems, such as being late to work once by 10 minutes because someone missed a bus, might be tolerated; however, anything resembling job abandonment will usually lead to immediate termination. Job abandonment may be defined as two days of unexcused absences in some cases. In other instances, however, an employer may feel justified in firing an employee who did not show up on a day when there was an unexpected increase in contracts and his absence led to losing them.

Understanding the Roles of Agency and Program Staff

Two separate staffs should be used to perform training functions. The staffs are (1) follow-up personnel working directly with the behaviorally based vocational training program and (2) personnel associated with the employing agency. While both staffs will assess on-the-job performance, their functions differ markedly. The employing agency has the responsibility for providing its own evaluation of how well the new employee is doing. The follow-up staff has the responsibility to objectively evaluate the subjective assessments made by the employing staff and to compare them with the performance and criterion levels specified during the placement survey and *objective* observation of employee performance. In all cases these evaluations should be made through the pre-established Work Performance Evaluation Form (Figure 7.14, page 176) in chapter 7.

Subjective evaluations may be based upon another person's conclusions of appropriate or inappropriate behavior. For example, the supervisor may make an evaluation based upon a coworker's perception of the new employee. Oftentimes, subjective evaluations are based upon unspecified or poorly defined standards of what is acceptable. For example, the item "communicating with supervisors and coworkers" on the Work Performance Evaluation Form (Figure 7.14, page 176) may not have indicated that too much "talk" during the work day or too much "talk about the same topic" are not acceptable. Your follow-up efforts, then, may be directed to decreasing talking or varying topics of conversation, respectively. Sometimes the subjective evaluations will be firsthand assessments by the employers, supervisor, or coworkers. Regardless of which evaluations are available, you must consider what the new employee actually does or how she behaves and what the employing staff believes she does or how she behaves (subjective evaluation).

Coordinating Objective and Subjective Assessments

Objective and subjective assessments are the primary

resources available for follow-up efforts in any behaviorally based vocational training program. The primary goal of the follow-up staff is to coordinate objective and subjective assessments to evaluate actual performance on the job. Both objective assessments made by the follow-up staff and subjective assessments made by the employing staff should serve to revalidate the social and vocational survival skills and the special considerations identified during the initial survey that led to development of the Work Performance Evaluation Form (Figure 7.14, page 176). The program staff must determine how well its own objective evaluations correspond with the subjective evaluations of the employers.

Correspondence between objective and subjective evaluations will take the form of an agreement or disagreement. There are several reasons why discrepancies between these evaluations might exist. One is related to the verbal reporting of performance. The person performing the rating may encourage the evaluator to increase or decrease the ratings. Similarly, the actual evaluator may believe he will not remain anonymous and fear some sort of retaliation by his coworkers. It is also possible that the objective measurement of work behavior may be manipulated in some form or fashion. The person obtaining the objective measure may be influenced by prior positive or negative feedback, for example. In any case, program staff are still forced to rely upon both subjective and objective sources of feedback with full knowledge that at one time or another the evaluations may not be totally accurate.

A second source of discrepancy between the two measures may be that the two separate evaluators are attending to two different sets of behaviors or conditions under which those behaviors are occurring. For example, a member of the employing agency may indicate an increase of a particular behavior, while the follow-up evaluators may indicate no change for it. Here, the discrepancy may be due to the coworker's attending to one small aspect of a production task that has resulted in fewer corrections by the coworker, although the production level per se has not improved. Decreasing the corrections was, perhaps, very important to the coworker, but not of much value to the overall production level being monitored closely by the follow-

up evaluator. Given this type of discrepancy, the program evaluator must adjust the objective measure to match the perceived changes made by the coworker through continuous exchange of information regarding the behavior or skill that is being measured.

Regardless of the reason for the discrepancy, the fact is that these evaluations are the only resources available to indicate whether someone is doing poorly or not. More importantly, these evaluations will directly dictate whether someone remains employed. It is possible that while the new employee may fail to meet some of the criteria, you can, through your concern and expressed interest, increase the likelihood that the employer, supervisor, and/or coworker will overlook minor discrepancies in an effort to obtain a larger goal—incorporate a unique taxpayer into the work force! Therefore, while it may be possible to agree upon competencies and agree upon deficits on social and vocational skills and special considerations, it is possible to disagree on objectively and subjectively specified competencies and deficiencies.

It is important to list areas of agreement and disagreement (Figure 8.1) and share these findings with the employing staff during scheduled and structured verbal reports. Your approaches and methods of handling these reports are crucial. Asking the employer, supervisor, and/or coworker if they have a couple of minutes is not productive. Setting up a time in the near future to go over their evaluations of the employee's performance suggests a higher level of professional involvement and shows respect for schedule and operations of the employing agency. If you are successful with the couple-of-minutes approach once, you may incorrectly assume you can interrupt what they are doing any time to attend to problems associated with the new employee. Such a mode of operation can lead the employing staff to believe that you are interested only in how well the new employee is doing and not *how well the new employee is doing as a productive member of the organization*. You should follow the guidelines suggested in the next section with respect to establishing a structured verbal report from the employing agency staff.

FIGURE 8.1 AGREEMENT/DISAGREEMENT FORM

Agreement/Disagreement Form

DEFICITS

Agreements	Disagreements
1 _____	1 _____
2 _____	2 _____
3 _____	3 _____
4 _____	4 _____
5 _____	5 _____

COMPETENCIES

Agreements	Disagreements
1 _____	1 _____
2 _____	2 _____
3 _____	3 _____
4 _____	4 _____
5 _____	5 _____

STRUCTURED VERBAL REPORT. During the structured verbal report you should identify those areas requiring retraining (Figure 8.2). Setting the following priorities for identifying retraining possibilities is recommended. First, attempt to cover the agreed-upon competencies. These will usually take less time than the others, and doing them first will ensure that they are covered before time runs out. Second, focus upon agreed-upon deficits identified initially by subjective evaluation and confirmed by objective evaluations made later by the follow-up staff. Third, focus upon subjectively specified deficits which were not objectively validated as deficits. Rather, they were objectively identified as competencies. Fourth, focus upon objectively specified deficits which were not subjectively validated; that is, they were subjectively identified as competencies. In all cases specify the conditions under which the perceived or real deficits were evident. This is done by identifying the time of day, type of work, and social conditions (e.g., who is present) under which the behaviors occurred. These conditions should be specified on a Possible Areas for Retraining Form (Figure 8.2).

CONCEPT REVIEW

Priorities for Identifying Retraining Possibilities

1. Agreed-upon competencies
2. Agreed-upon deficits
3. Subjectively specified deficits that were not objectively validated
4. Objectively specified deficits that were not subjectively validated

Prioritizing Deficits to Set Objectives

The results of the subjective and objective evaluations will require you to prioritize deficits in need of remediation and to specify follow-up training objectives based upon those deficits. In prioritizing these deficits, it is necessary to determine which ones may result in loss of job, which ones can be remediated immediately, which ones will require a prolonged

FIGURE 8.2 POSSIBLE AREAS OF RETRAINING FORM

Possible Areas of Retraining Form

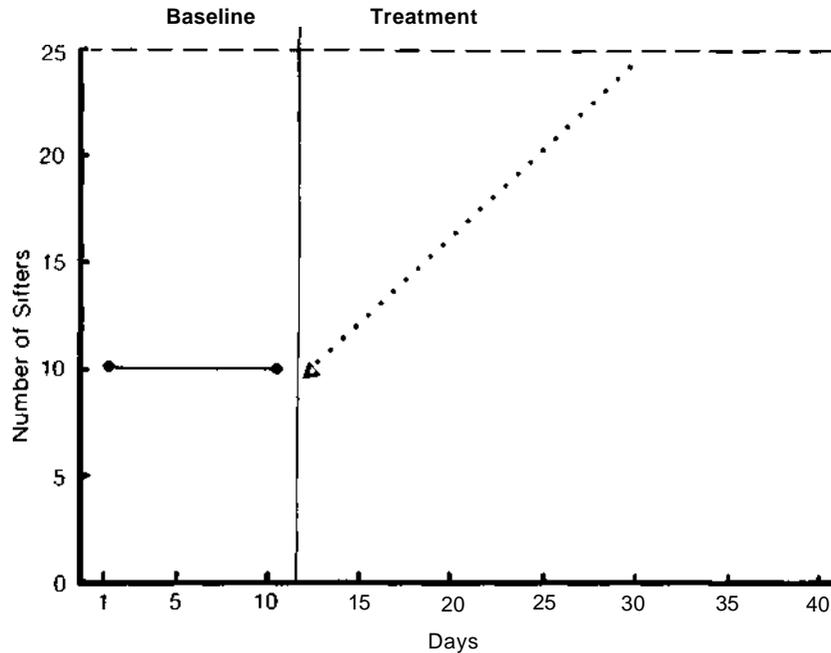
Agreed Upon Deficits (Subjective/Objective Agreement)			
Areas	Time of Day	Type of Work	Social Condition
1			
2			
3			
4			
5			
Subjectively Specified Deficits (Objectively Identified as Competencies)			
Areas	Time of Day	Type of Work	Social Condition
1			
2			
3			
4			
5			
Objectively Specified Deficits (Subjectively Identified as Competencies)			
Areas	Time of Day	Type of Work	Social Condition
1			
2			
3			
4			
5			

period of (re)training, and which ones are a function of the worker and social conditions. In each case, three steps should be followed for each of the identified deficits. They are: (1) getting input from the employer, supervisor, and/or coworkers regarding the behavior in question and determining what level of performance (i.e., quality and quantity) will be accepted after a period of training; (2) determining the level of improvement that is possible in the time available for (re)training; and (3) negotiating with the employer, supervisor, and/or coworker for a level of performance that can be reasonably expected in the time available. For example, you may have placed someone conditionally (see chapter 7). The employer, supervisor, and/or coworker were interested in employing a graduate from your program, but they had some reservations about working with mentally retarded adults. Several minor discrepancies involving performance were revealed after three weeks in the conditional employment, and efforts to remedy them led to additional discrepancies between what was expected and what was obtained. In such a case it may become necessary to set a date for unconditional employment to begin. This may imply that the new employee will be dismissed if she does not meet the expectations of the employing staff, yet this may be positive. It is quite possible that the expectations of the employing staff would never be fully met. Establishing a date may be in the best interest of the new employee since release from the conditional employment contract will let you look for another placement.

In the last step—negotiating a level of performance that can be reasonably expected—you should provide comparative validation assessment data to the employer. Evaluation of progress should be graphically displayed for the employer, supervisor, and/or coworkers. The level of performance desired, the daily measured progress, and the time frame for improvement should all be displayed on that graph. Figure 8.3 graphically shows a case wherein the production level is lower than desired (10 sifters per day, baseline performance), the level of performance based upon coworker levels is known (25 sifters per day), and the time frame is identified (20 days). The level of performance is the comparative validation measure. To help guide the evaluation of progress, plot a trend line. A trend line is

made by drawing a straight line between the first day of the negotiated time frame and the last day possible for the desired performance. The first day represents the average level of performance during baseline (see Figure 8.3).

FIGURE 8.3 FLOUR SIFTER PERFORMANCE



- - - - - Desired Performance
- - - - -> Actual Performance
- > • Trend Line
- △ Average Level of Sifters Past 2 Weeks
- 20 Days Negotiated Time Frame

The purpose of specifying outcomes is to change both the employee's and the employing staffs beliefs and/or behavior in mutually supportive directions. Resulting behavior change will improve the attitude of each toward the other. Achieving agreement between both the new employee's performance and the employing staff's perception of that performance is impor-

tant to the individual employee, as well as to the overall training program. Agreement will promote a social situation that will most likely result in maintaining the individual placement and possibly prepare the placement setting for future graduates because of improved attitudes toward the new employee and the overall training program.

CONCEPT REVIEW

Factors in Prioritizing Deficits

1. Which deficits will result in loss of jobs?
2. Which deficits can be remediated at once?

Steps to Follow for Identified Deficits

1. Identify specific behavior and desired level of performance.
2. Determine level of improvement in time available.
3. Negotiate level of performance that can be reasonably expected.

DELIVERY OF FOLLOW-UP SERVICES

Using Two Types of Schedules

The number of deficits and the importance of the identified deficits determine the schedules you set up to deliver necessary follow-up services. Employers, supervisors, and/or coworkers must be told initially (e.g., at the staff orientation meeting) that the training program's goal is for the graduate to do so well that your services are not necessary or required, but everyone must understand that follow-up is built into the program. It is important to make the schedule for follow-up services known even before placement. If a new employee is doing well, with few identified deficits, your follow-up services may be perceived as an annoyance not only to the new employee but also to the employing agency, if all have not understood from the beginning that follow-up will occur. Follow-up services may be on an adjusted or fixed schedule.

ADJUSTED SCHEDULE. An adjusted schedule is determined by the success of the programs being monitored and the new employee's success in meeting the expectations of the employer, supervisor, and/or coworker. The adjusted schedule may, initially, take the form of an 8-hour direct, daily contact with the new employee. Eventually the schedule for follow-up may be extended to weekly checkups based primarily upon the descriptive validation assessments (i.e., the Work Performance Evaluation Form). However, you cannot arbitrarily move from the direct, daily contact to the occasional weekly checkup. These contacts must be based upon the success of the new employee in adjusting to the job, as well as the employing staff's adjusting to the new placement. Figure 8.4 illustrates a sample adjusted follow-up schedule.

FIGURE 8.4 ADJUSTED FOLLOW-UP SCHEDULE

Date	On Site		Off Site
	Observable to Employee	Not Observable to Employee	
January 22-24	8	0	0
25-26	7	1	0
29-31	6	2	0
February 1- 6	5	3	0
7- 9	4	3	1
12-16	3	2	3
19-23	2	2	4
26-28	1	2	5
March 1-16	1	1	6
September 1 (per week)	1	1	6
September Forward (per week)	0	1	7

Note that the follow-up trainer was either on site or off site. When on site, the trainer was in easy view of the new employee (observable) or not observable at all. Initially, the new employee required 8 hours of direct service for 3 days. However, this quickly reduced to 7 hours per day after the third day, 6 hours the sixth day through the ninth day, and so on, until 7 weeks (March 1-16) later the trainer was required to be on the job only 2 hours a day. One of these 2 hours was spent directly

observing, while the other was spent going over the Work Performance Evaluation Form and talking with the employer, supervisor, and coworker regarding ratings, progress, and future placements. Eventually, follow-up services may take the form of a 1-hour visit to the site to discuss the evaluation form only (see "September Forward" on Figure 8.4).

While the sample schedule may be used successfully with any employee of a vocational training program, you could shorten or lengthen it, depending on the performance of a particular employee and the employing staff's perceptions of his competencies and deficits. It is possible that Monday morning absenteeism, daily late arrival, and Wednesday afternoon tantrums could present themselves 6 months after placement, in which case you would be required to increase your time spent on the job. Here, the amount of time spent on the job would be in direct response to the severity of the problem. It may be necessary to increase daily follow-up services to a few hours a day or only a few additional hours per week on days when the problems are most likely to occur.

FIXED SCHEDULE. Second to the adjusted schedule is the fixed schedule. Essentially, this schedule would be negotiated with the employing agency to include preset visitations by follow-up personnel. While this schedule is less desirable than the adjusted one, the fixed schedule may be the only one the employing agency will tolerate. The agency staff may perceive a flexible arrangement to be too disruptive. In the case of the fixed schedule, you should negotiate for as much time as possible initially, reducing that time as slowly as possible over the course of several weeks or months. Figure 8.5 presents a suggested fixed schedule.

In this sample fixed follow-up schedule, 6 months after placement the follow-up staff is on site 2 hours per day and off site 6 hours per day. Subsequent to the initial 6 months of follow-up, monthly checks may be sufficient, or more frequent visitations may still be required. For the employer who wishes to know in advance when and how much time will be required for follow-up, it's best to negotiate a rather stringent schedule. It is easier to decrease the time after the schedule is set up than to increase it without upsetting the employer.

FIGURE 8.5 FIXED FOLLOW-UP SCHEDULE

Weeks	On Site		Off Site
	Observable to Employee	Not Observable to Employee	
1	8	0	0
2	6	2	0
3	5	2	1
4	4	3	1
5	4	2	2
6	3	3	2
7	3	2	3
8	2	3	3
9-12	2	2	4
13-16	2	2	4
17-20	1	2	5
21-24	1	1	6

Using Direct and Indirect Delivery

Three alternatives exist for implementing follow-up services. They can be provided directly, indirectly, or in combination. Direct follow-up services entail arranging training and managing and evaluating behavior according to the principles and procedures presented in previous chapters. Indirect services entail training the employing agency staff to train and manage, as well as to make the work performance evaluations on a weekly, biweekly, or monthly basis.

It is important to enjoin employers, supervisors, and/or coworkers to provide training and management procedures for a mentally retarded adult. Each handicapped individual employed presents different abilities, suggesting different approaches to be taken when training new skills, retraining little-used skills, and managing those skills. For example, it may be necessary for the employing agency staff to know whether verbal instructions, a demonstration, or full physical contact is necessary to train new skills. Also, different consequences may be more effective on different people. Some new employees may not appreciate constant feedback on corrections or errors; for them being independent, or being left alone, may be more desirable. Others may require constant differential praise and admonishments or a diagram to complete a new task. If you are relying on the agency staff to conduct some of the follow-up

services, you will need to schedule a time to practice training and management procedures with them and to tell them how much monitoring you will do. This information will assure the employing agency staff that they will not be without technical assistance when they need it.

Administering the Work Performance Evaluation Form

The Work Performance Evaluation Form (Figure 7.14, page 176) described in the last chapter should be administered at regular intervals after the placement is made. Once a week for the first four weeks and once a month thereafter is usually a good schedule. The form should be completed by the employer, a supervisor, and a coworker *each time it is scheduled to be completed*. During the early months immediately following the placement, you will most likely be at the employment site and will be able to hand out copies well before they need to be completed. Handing copies out the first day of employment and picking them up at the end of the first week is a good approach. Then, each time you pick up a completed form, you will be able to replace it with a blank one. If the form has not been completed as scheduled, urge the rater to complete the form *at that time*. After about 6 months or a year, you might mail forms and stamped, self-addressed envelopes to the agency. If they do not return the completed forms, you might call or visit the agency.

Providing Feedback on Employee Progress

You will need to provide feedback to the new employee, the employer, supervisor, or coworker, parent/guardian, and any others of the placement committee. This feedback should focus on the scores obtained from the Work Performance Evaluation Form. This form provides three pieces of information which can be graphed and shared with the consumers of the placement. These are the average scores in each of these categories: the vocational survival skills, the social survival skills, and the special considerations. Also any areas requiring training and the progress made to provide the training should be pointed out. In fact, you may want to share a copy of the training procedures (see chapter 4) you employed to address a particular problem.

Maintaining a Placement Log

A placement log will help you maintain records on the procedures and practices being followed once a placement is made (Figure 8.6). The placement log should contain a brief description of the needs, problems, and deficits addressed by anyone at the employment site; the activities employed to meet these needs, problems, and deficits; the results obtained by the activities; and any recommendations that are suggested.

CONCEPT REVIEW

Steps in Developing a Follow-Up Program

1. Identify deficits and competencies.
2. Coordinate objective and subjective assessments.
3. Provide feedback.
4. Prioritize deficits.
5. Set objectives.
6. Deliver necessary follow-up services.
7. Administer Work Performance Evaluation Form.
8. Report progress to placement committee and others.
9. Maintain placement log.

SUMMARY

This chapter focused on many of the issues that may surface after a placement has been made and the procedures that should be followed regardless of whether or not there are problems. Follow-up should not be taken lightly nor centered solely around problems and deficits. Follow-up services are a necessary function of a training program attempting to create opportunities for mentally retarded adults along a perceived continuum of placement options. Your response to the employing agency after a placement has been made will reflect whether or not you are truly interested in seeing mentally retarded adults express their many competencies and potential to the employer, supervisor, and coworker, and ultimately, to

FIGURE 8.6 PLACEMENT LOG

Placement Log

Trainee/Employee _____ Date _____

Contact Person _____ Date _____

Agency _____

Needs/Problems/Deficits/Addressed _____

Activities Employed _____

Results of Activities _____

Recommendations _____

the community. Following many of the suggestions provided by the text and incorporating new approaches to surveying, training, and placing people can only increase the likelihood mentally retarded adults will begin to share in the many services and experiences most people take for granted.

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