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ABSTRACT

The paper reviews a community-oriented behavioral approach to vocational training and suggests behaviors to be acquired before handicapped students leave the public schools. The initial survey of the community is designed to identify possible community job placements and determine relevant vocational behaviors within each of the jobs. Survey methods include verbal reports and direct observations. The second section of the report focuses on training severely handicapped persons to become competent workers and includes information on training behavior (shaping, discrimination, generalization) and managing behavior (reinforcement, extinction, and punishment). The third section of the model, placement in community-based vocational settings, includes three critical features: cooperating with potential placement staff, monitoring student performance, and advocating for fair and equal treatment. (CL)

SURVEY-TRAIN-PLACE. VOCATIONAL PREPARATION FOR THE SEVERELY HANDICAPPED STUDENT

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Running Head. Survey-Train-Place

SURVEY-TRAIN-PLACE. VOCATIONAL PREPARATION FOR THE SEVERELY HANDICAPPED STUDENT

Few severely handicapped young adults enter or maintain a vocation in the American work force. In fact, quite the contrary is true. Mentally retarded and neurologically impaired persons (e.g., cerebral palsied) constitute 91 percent of those currently employed in work activity centers, a type of sheltered workshop that employs "inconsequential producers". Further, the average hourly wage of these employees is $.43 (Department of Labor, 1979). These vocational settings offer individuals little, if any, opportunity for advancement in salary or responsibility. This situation represents a gross misuse of a valuable human resource--the severely handicapped person as a potential employee.

Severely handicapped persons have been excluded from the mainstream of the labor force for several reasons. Two reasons in particular, deserve mention: (1) low expectations of parents, teachers, and employers, regarding the ability of severely handicapped people and (2) failure to employ a cohesive training technology to train the necessary job skills that might result in gainful employment. Severely handicapped adults have been provided few employment opportunities because of a perceived lack of work competence. This continues to be the case in spite of recent research demonstrating that severely handicapped persons can learn complex assembly skills (Bellamy, 1976, Gold, 1976, Hunter, & Bellamy, 1978), community mobility skills (Carney, Menchetti, & Crelove, 1977; Sowers, Rusch, & Hudson, 1979, Vogelsberg & Rusch, 1979), and vocationally relevant social skills (Rusch, Weithers, Men-

chetti, & Schutz, in press, Schutz, Rusch, & Lamson, 1979). Parents, teachers and employers who believe severely handicapped individuals cannot perform vocationally with the same degree of competence as non-handicapped individuals perpetrate a myth reinforced when an untrained severely handicapped person fails on the job. Failure is not due to an inherent lack of ability but to ineffective training programs provided by public schools and post-secondary social service agencies.

Employees who are reliable and competent on the job provide employers with a powerful hiring incentive. Recent reserach has shown that severely handicapped individuals can be trained to arrive at work on time (Gruber, Reeser, & Reid, 1979), to complete jobs successfully, (Cuvo, Leaf, & Borakove, 1978), and to interact appropriately with co-workers (Rusch, Walthers, Mechetti, & Schutz, in press). Haring and York (1975) suggested that the procedures used to obtain these results be incorporated in the instruction of secondary level severely handicapped students. Recently, Rusch and Mithaug (1980) stated,

> although there is ample research evidence documenting success in training mentally retarded persons in such diverse skill areas as selfhelp, communication, social, fine and gross motor behavior, it is yet to be used to make a significant impact on these person's opportunitites for independence in the community (p 1).

This statement indicates that an instructional technology is available to educators working with severely handicapped students in a wide variety of skill areas and that the larger mission is to "put-it-all-together."

This chapter overviews a community-oriented behavioral approach to vocational training and suggests behaviors to be acquired before students leave the public schools. This approach is described with examples to illustrate each of its components. The first section of the chapter will focus on the need to <u>survey</u> the community. A survey will

identify possible community job placements and determine relevant vocational behaviors within each of these jobs. Section two outlines the procedures necessary to train severely handicapped persons to become competent workers. The final section overviews the procedures teachers should use to advance students from classroom to classroom and, eventually, to place students into jobs in the community.

SECTION ONE: SURVEY

When developing instructional programs for severely handicapped students, it is important to base goals and educational objectives upon what students will be expected to do upon completion of their public school experience. Therefore, it is necessary that these programs be based upon future jobs available within the students' community. Consequently, all instruction should be directed toward the survival skills potential employers believe are important (Rusch, 1979).

Identifying job placements

The primary importance of identifying job placements is to determine the social and vocational skills that employees will be expected to display on their jobs. Rusch (1979) suggested that such skills be refered to as survival skills. The term survival, in the context of employment, suggests a measure of success. Two methods for determining survival skills include verbal reports from knowledgeable persons and direct observations of worker behavor (Rusch and Mithaug, 1980).

Verbal Reports Verbal reports generally involve interviewing employers, supervisors and persons performing the skills that comprise the identified job placement. A very recent example of such a survey was conducted by Mithaug, Hagmeier, and Haring (1977). Mithaug et al.,

(1977) interviewed supervisors of sheltered workshops and found that these supervisors agreed on several categories of behaviors. The resulting categories were then used to generate a list of critical survival skills. Subsequently, Mithaug and Hagmeier (1978) presented these skill categories to 56 supervisors in activity centers, developmental centers, and sheltered workshops to assess concordance between supervisors on the most relevant-least relevant survival skills. A further analysis of the data by Rusch and Mithaug (1980) revealed that 90 percent of these supervisors agreed upon the vocational survival skills categories and the social survival skills categories displayed in Table 1 and Table 2, respectively. Inspection of both tables points to

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Insert Table 1 and 2 Here

"participating in work environments for 6-hour periods" and "communicating basic needs such as those involving thirst, hunger, sickness, pain, and toileting" as the most frequently agreed upon survival skills in both skills categories. Preparation of students for placement into activity centers, developmental centers and sheltered workshops after public instruction should be based, in part, upon such a list of survival skills. It is important that teachers survey their own communities to identify the survival skills employers will require prospective employees have before they are hired and, most importantly, maintained, i.e., not fired.

Direct Observations. Often employers, supervisors and employees will not provide an accurate list of the behaviors necessary for employment or will not rank the importance of the list of behaviors. Therefore, it

is necessary to arrange with potential employers a time to observe the actual work setting With a list of behaviors already developed beforehand the task becomes validating this list. Validating the list can be accomplished by observing the position that has been targeted as a potential one for graduates of the public school Rusch and Mithaug (1980) provide a step-by-step outline to follow to observe work settings Therefore, a thorough description of these procedures will not be presented here. Once the setting/position has been observed and all survival skills identified the next step is to form a continuum of behaviors based upon these skills to structure the advancement of students from the secondary classroom into identified job placements and to promote movement of students from one classroom to the next

Developing a Skills-Based Continuum

The movement of severely handicapped students in the public schools from one level of instruction to the next, should be conceptualized as a skill acquisition continuum of teaching leading to targeted placement settings For example, if working for a 6-hour period has been identified as a requisite vocational skill to gain entrance into community sheltered workshops, instruction in the public schools should be directed toward developing these skills. To illustrate further, Figure 1 depicts two potential vocational survival skills representing the focus of instruction beginning with the pre-school classroom and advancing to the secondary classroom. Along the top of this figure the chronological age of the student is represented as well as the probable age X classroom placement correspondence. Regarding the first vocational survival skill, students would be required to participate in activities for increasingly longer periods of time as they progress through the public school experience; beginning with participating

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Insert Figure 1 About Here

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in 4 separate 15 minute instructional programs in the preschool classroom, 8 separate 30 minute instructional programs in elementary classrooms, 2 separate 2 hour work-related instructional programs in the intermediate classroom and participating in work related activities for 6 hours with two 15 minute and one 30 minute break in the secondary classroom.

Similar to vocational survival skills, social survival skills can be broken down into a series of instructional goals. Figure 2 illustrates two potential social survival skills. For example, if communicating basic needs, such as thirst, sickness, pain, and toileting is identified as a requisite social skill for acceptance into a secondary or post-secondary vocational placement, sub-goals may be delinated for each stage of the students' public school experience. In the preschool classroom, the goal may be to have the student imitate by saying, signing or gesturing basic needs during instruction. However, when the student reaches the secondary level, the goal may be to initiate basic needs to a job supervisor, when appropriate.

Insert Figure 2 About Here

The vocational and the social survival skills illustrated form a continuum of behaviors beginning with the preschool classroom and ending with the secondary classroom. An important point to be remembered when teaching such skills as participating and communi-

cating is to base the instruction on what is functional for each student. Functionality defined within the context of vocational habilitation refers to teaching new applications of those skills which have been selected as important for eventual job placement. For example, a student might learn to move independently around the classroom, from the classroom to the gymnasium, then to the playground and eventually to a local shopping center or park. At the secondary level all skills need to be taught on placement-specific tasks, such as riding the bus to and from work. In the pre-school classroom the level of instruction is the more general application of the larger mobility skill, that is, moving about the classroom independently. Teaching skills with the eventual placements in mind should focus all training throughout the public school experience.

When identifying social and vocational skills, the teacher's major responsibility is to determine skills required to function in future placements. All occupations require the employees to perform socially and vocationally. Acquiring a list of those social and vocational requirements allows the teacher to determine which behaviors are essential for entry into a particular occupation and, further, which of these behaviors should constitute educational goals and objectives. For example, a janitorial placement may require the prospective employee to grasp, turn, push, rub, rinse, pull, place, and move several different objects throughout the work shift. Each of these skills, confirmed by verbal reports and direct observations, comprise the survival skills to be introduced and taught in classrooms before the actual placement. The secondary classroom teaches specific applications of each of these behaviors. The preschool, elementary and intermediate classrooms

develop instructional programs that advance the student from general applications of each behavior to employer-specific task applications.

After placement survival skills have been identified a training strategy can be developed The second section of this chapter outlines a training approach based upon the behaviors of a student and the relation between school and work settings to these behaviors

SECTION TWO: TRAIN

Behavior relative to any setting can be trained or managed. Training refers to acquiring social or vocational behaviors and managing to decreasing, increasing, or generalizing these acquired behaviors. The teacher can train or manage behavior through the use of the principles of shaping, discrimination, generalization, reinforcement, punishment, and extinction

Training Behavior

Shaping, discrimination and generalization principles are directed toward establishing new modes of responding Shaping is the reinforcement of successive approximations of responses that resemble target behaviors absent from the student's behavioral repertoire. The shaping principle relies upon identifying behaviors and sequencing these behaviors so that the task is completed efficiently. Applied to the classroom, the shaping principle requires teachers to set objectives, assess students relative to these objectives and teach students to acquire new behaviors. For example, a student may not be able to complete the task, washing the windows, because he/she has not learned the wiping behavior. Consequently, the teacher would instruct the student to wipe, with a back and forth motion, separate from the other

responses required then in concert with all the responses that comprise the task washing the windows.

Discrimination occurs when dissimilar properties of two or more environmental events have differential effects on behavior. Both stimulus control and discrimination training procedures are subsumed under the discrimination principle. Stimulus control is based upon establishing a predictable relationship between an environmental event and a behavioral response. For example, a student would be said to be under stimulus control if he/she goes to lunch (behavioral response) when the bell rings (environmental event). When a student is not under stimulus control the teacher probably does not know what event is influencing the student's behavior. Discrimination training procedures expand upon stimulus control by extending the event-response, such as in the bell-to-lunch example above, to multiple event-response relations. For example, in the classroom, the teacher may use a 5 x 7 index card with clock faces printed on one side with the minute and hour hands pointing to the times a student will need to "go to lunch" and "return from lunch". This card may be shown to the student right before lunch time so the student associates the time with bell ringing. Initially the teacher may teach the student to go to lunch with the aid of the card with the clock faces printed on it; then, fading the card as the student reliably uses the card in concert with the bell. Eventually the student learns that the first bell signals going to lunch and the second bell (30 minutes later) coming from lunch or returning to the classroom.

Generalization occurs when two or more similar environmental events have similar effects on behavior. There are two types of generalization: stimulus and response. Stimulus generalization involves

training a student to behave in a particular manner when one ..mulus is present, gradually fading that simulus as a second stimulus gains control over the behavior For example, the teacher may train a student to "look at me" (the stimulus) and gradually fade himself as he trains the student to "look at me" when the student's father is present (second stimulus). Response generalization occurs after applying a previously learned behavior to different but similar tasks. For example, a student learns to mop the floor with one mop on one floor then with different mops on different floors. A teacher may suggest that behaviors taught in intermediate grades include tha mopping responses. Then, when the student enters the secondary classroom, time can be spent traning the student to generalize learned behaviors (responses) to a variety of stimulus situations, such as mopping on a different classroom floor or the gymnasium floor which is wooden.

Managing Behavior

Managing behavior requires the use of the principles of reinforcement, extinction and punishment The reinforcment principle describes how events that follow behavior increase the likelihood that the behavior will occur again. Reinforcment refers to increases in responding through the presentation of positive events or the removal of negative events. Positive reintrocement is the procedure of following a behavior with a positive reinforcer such as a pat on the back or an extended recess period. Positive reinforcers are identified by their influence on behavior, i e., they increase the likelihood the behavior will occur again. Conversely, negative reinforcement occurs when a students' behavior increases through avoiding or eliminating an aversive event, such as, a teacher reprimand or an uncomfortalbe hand-hold (Mitnaug,

& Hanawalt, 1977). In the classroom it is essential to determine reinforcers by testing which consequences produce increases in behavior. Hopefully the teacher has full knowledge of entering students' "menu of reinforcers." If this is not the case, the teacher should quickly determine what has been tried and what has not been tried by others. Parents, teachers and even bus drivers could all be asked to specify the things they believe make a student happy. Successful instruction in the classroom is contingent upon knowing what consequences serve to increase the likelihood a behavior will occur and what consequences will not increase inappropriate behavioral output.

Extinction and punishment have the opposite effect on behavior as reinforcement. Both principles cause decreases in behavior. Extinction occurs when reinforcement is withdrawn following a behavior with the likelihood that the behavior occurs less often, if at all. For example, a student may scream because screaming produces teacher attention (positive reinforcement). If the teacher realizes this, and subsequently ignores the students screaming (withdraws the positive reinforcer), the rate of screaming should decrease. The punishment principle requires the presentation of negative events or the removal of positive events that produce the effect of decreasing the likelihood of that behavior reoccurring. Positive punishment relies upon presenting negative stimuli, such as reprimands. Negative punishment requires the withdrawal of positive events. For example, the teacher may be using tokens (positive event) to reinforce appropriate behavior and loss of earned tokens (withdrawal of positive events) to punish behavior.

While space here precludes a thorough overview of each of these principles, readers are referred to two recent texts by Bellamy, Horner

and Inman (1978), and Rusch and Mithaug (1980). Both texts present step-by-step procedural overviews of the training technology described briefly here. Further, the Bellamy et al., (1978) text covers the procedures to follow when a student has not progressed toward independent functioning at even the most basic level

SECTION THREE: PLACE

The final step in vocational preparation involves transition from the public school to post-secondary, community-based vocational settings--placement. The selection of a post-secondary vocational placement should be guided by the student's abilities This selection, similar to educational placement decisions, should be based upon the least restrictive placement alternative. Communities may offer a variety of potential placements ranging from sheltered workshop programs to non-sheltered, competitive employment. Sheltered workshop programs can offer a variety of work-related opportunities including work activity centers (sometimes referred to as developmental centers), extended sheltered employment and transitional employment opportunities. The work activity center generally involves paying individuals less than half the minimum wage. Persons employed in these segregated settings are thought to be unable to perform over 25 percent of the work produced by non-handicapped persons (Greenleigh Associates, 1975). Extended sheltered employment often refers to efforts to employ persons performing salvage or sub-contract work at less than minimum wage. Transitional programs attempt to place individuals into competitive employment positions after a period of evaluation, work adjustment and/or vocational skills training. Typically, these programs are offered by the same facility--a sheltered workshop.

In recent years, many communities have begun to develop vocational training programs which extend the continuum of placement options to include specific competitive employment training. One approach, the enclave, consists of handicapped individuals working as a unit, under special supervision, in a factory or in a building performing maintenance work (Pomerantz & Marholin, 1977). A similar approach involves the development of a training program within a competitive employment setting for a small group of handicapped persons. When specific job tasks are mastered, these individuals 'graduate' from the training site and are placed into similar occupations. These programs typically focus upon the service industries (e.g., kitchen laborer, janitor, maid) with the initial training component of these programs usually based at junior colleges or universities (Rusch, Schutz, Lamson, & Menchetti, Note 1, Wehman & Hill, Note 2).

Post-secondary vocational placements presented above, represent a sample of the potential placements that may be available in a specific community. Just as jobs will vary widely entrance criteria for vocational training programs and competitive job placements vary from community to community. Consequently, public school personnel must survey the potential placements unique to their community and identify the requisite survival skills for inclusion in school curricula. Finally, regardless of the placement option under consideration, teachers must also attend to three critical factors associated with the successful transition of students from the public school to community-based job settings. These are 1) cooperating with potential placement staff, 2) monitoring student performance, and 3) advocating for fair and equal treatment. Teachers must cooperate with the placement site staff,

e.g., the employer, to facilitate a smooth transition. Public school teachers should also communicate relevant student characteristics such as preferred reinforcers, behavior problems, and skill mastery during a specially set-up orientation training session. The selection of material to be covered during orientation training is determined by the students' skill level and the requirements of the job. Topics covered may include different approaches to be taken when training new skills, re-training little used skills, or managing skills. Orientation meetings should be arranged by working with the employer or supervisor to determine times that will not disrupt the productive day. These times may include the first 10 minutes of a shift or the last 10 minutes. When providing orientation training it is important to prepare an outline of items to be covered, to have access to examples to clarify points that are relevant to the placement setting and to allow time for questions. This kind of professional communication is necessary for smooth transition from the public school to any post-secondary vocational placement.

The second important component of the placement process, monitoring student performance, is a direct outcome of professional communication. Teachers and placement site staff should design instruction that reflects the new employees day-to-day performance, being sensitive to the needs of the placement setting. For example, after placement it may be necessary to assist the employer, supervisor, or co worker to train the new employee in a task that has not been previously learned. Functioning on the job requires performing at an acceptable level on all skills, vocational and social. Until the employing agency is satisfied that the student (new employee) is functioning independently the new employee will require training. This level of independent functioning should be attained before the pupil reaches post public school age.

A third factor important for successful placement is advocating fair and equal treatment of placed students. Teachers placing students should advocate that a former student receive appropriate treatment in each new placement. This could involve requiring the least restrictive training procedures that have been proven successful when training new skills and advocating for better than minimum wage as well as a comprehensive benefits package.

SUMMARY

The vocational habilitation triology of survey-train-place should be the form in which all instructional efforts are based. Traditionally, instructional protocol in public schools relies upon assessing student skills, specifying objectives, developing instructional materials, incorporating procedures to reach these objectives and, finally, evaluating student progress. Similarly, the vocational paradigm of survey-train-place requires the teacher to assess the job requisities of future placement alternatives (survey) assess the student, set instructional objectives based upon this assessment, develop instructional procedures and materials and then train the student to acquire relevant vocational and social survival skills. Once training has been provided the student can be placed into an advanced setting, i.e., a classroom teaching more advanced behaviors on a targeted job (place). When a placement is made the outcome of all previous instructional efforts are evaluated. It is important to note that within the context of the vocational habilitation paradigm of survey-train-place, assessment is not made in the vacuum of a single classroom or job but in the context of an advanced placement. Within each placement the requisite entry skills

of each future placement are known and students are trained so that they perform these skills before they are placed. The success of this approach to habilitation assumes that relevant skills are taught in the classroom and advancement from one classroom to a future classroom or job is based upon acquiring these relevant skills. Also, this approach assumes communication between teachers of severely handicapped students and between teachers in other classrooms and persons working in post-secondary placement settings.

In conclusion, this chapter has outlined a survey-train-place vocational habilitation paradigm. Survey referred to identifying social and vocational survival skills. Train, the second component, suggested utilizing a behavioral approach that relied upon six elementary principles. The final step, placement, stressed the importance of transition of students from classroom to classroom and, finally, into the community. The application of the survey-train-place paradigm to the educational experience of severely handicapped students should result in advancing students toward alternatively available community vocational placements.

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Table 1
Vocational Survival Skills

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.

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Table 2
Social Survival Skills

1. Communicate basic needs such as those involving thirst, 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 time 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.

Note — From Vocational Traning for Mentally Retarded Adults: A Behavior Analytic Approach by F. R. Rusch and D. E Mithaug. Research Press. Champaign, Illinois Copyright 1979 by Frank R Rusch and Dennis E. Mithaug. Reprinted by permission

Figure Captions

Figure 1. Skill acquisition continuum for two vocational survival skills.

Figure 2 Skill acquisition continuum for two social survival skills.

Vocational Survival Skill	CHRONOLOGICAL AGE OF STUDENTS			
	3-5	6-12	13-15	16-21
	PRESCHOOL	ELEMENTARY	INTERMEDIATE	SECONDARY
Participate in work environment for 6 hours	Participate in 4 separate 15 minute instructional programs	Participate in 8 separte 30 minute instructional programs	Participate in 2 separate 2 hour work-related instructional programs	Participate in work-related activities for 6 hours with two 15 minute breaks and one 30 minute lunch
Continue work without disruptions when supervisor, fellow worker, and/or stranger is observing	Participate in activity with 2 or less disruptions, when teacher is observing	Engage in in-seat academic work with 1 or less disruption when observed by teacher	Engage in work-related tasks without disruption when observed by teacher or fellow students	Work continuously, without disruption when observed by vocrtional education teacher, job supervisor, fellow worker, and/

Figure 1

Social Survival Skill	CHRONOLOGICAL AGE OF STUDENTS			
	3-5	6-12	13-15	16-21
	PRESCHOOL	ELEMENTARY	INTERMEDIATE	SECONDARY
Communicate Basic Needs	Imitate by saying, signing or gesturing basic needs during instructional sessions	Responds to questions about basic needs and initiates communication concerning basic needs during instructional sessions	Responds to questions about basic needs and when appropriate, initiates basic needs throughout school day	Initiates basic needs to job supervisor when appropriate
Reach Place of Work	Move independently around classroom	Move independently within school (e.g., from classroom to gymnasium)	Travel, semi-independently* to select destinations within community (i.e., walking and/or bus riding to and from shopping center)	Travel independently (i.e., walking or bus riding) to community-based work sites such as a sheltered workshop or competitive employment, work experience placement

*For example, student travels to a destination with the class, however, the the student is allowed opportunities to make decisions

Figure 2