

# FOCUS ON EXCEPTIONAL CHILDREN

## Vocational Content for Students with Moderate and Severe Disabilities in Elementary and Middle Grades

*Paul Alberto, Nancy Elliott, Teresa Taber, Elizabeth Houser, and Perry Andrews*

Addressing the transition needs of students with disabilities has become a national priority and a primary focus for educators serving secondary-age students with disabilities since passage of the Individuals with Disabilities Education Act (IDEA) of 1990 (PL 101-476). This Act specifically mandates coordinated planning for transition and post-school activities for each student with disabilities. IDEA defines transition services as "a coordinated set of activities for a student . . . which promotes movement from school to post-school activities" (PL 101-476, 20 U.S.C. 1401[a][19] of IDEA) and includes "instruction, community experiences, the development of employment and other post-school adult living objectives, and when appropriate, acquisition of daily living skills and functional vocational evaluation" (Section 602[a][20] of IDEA). In addition, this law mandates that a statement of identified transition needs and services be addressed within each student's individualized education program (IEP) "no later than age 16" (Section 602[a] of IDEA).

With this defined curriculum focus for the secondary level, instructional content and practices have to be coordinated among elementary, middle, and secondary programs to take full advantage of the instructional time available. By presenting a coordinated effort, educators may better prepare their students for successful transition into employment and other areas of community life.

The widely accepted best practice for the education of students with moderate and severe disabilities at the secondary level is community-based vocational instruction (CBVI) (Ford et al., 1989; Wehman, Kregel, Barcus, & Schalock, 1986). The goal of this component within an overall community-based program is to prepare students for transition into supported or competitive employment following graduation.

Figure 1 illustrates the sequence within a community-based program. Students participating in a CBVI program receive vocational instruction and firsthand experience by rotating through a variety of occupational training sites in community businesses. The instruction that takes place at these sites is based directly upon skills taught at the primary levels. Because CBVI usually begins when students are between 14 and 16 years old, instructional content complementary to the secondary curriculum is paramount during the elementary and middle school grades (Wehman, Kregel, Barcus, & Schalock, 1986).

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*Paul Alberto* is a professor at Georgia State University and project director for Project SETS. *Nancy Elliott* is assistant project director, and *Teresa Taber* and *Elizabeth Houser* are training coordinators for Project SETS. *Perry Andrews* is job training liaison for the DeKalb County Public Schools.

The purpose of this article is to describe specific components of an appropriate pre-CBVI curriculum for elementary- and middle-school-age students with moderate and severe disabilities. It also is intended to provide examples of appropriate school-based vocational activities. The following information is a result of activities of the Supported Employment and Transition Services Project (Project SETS), including interviews with secondary instructors. The goal is to provide an outline for training content based on actual CBVI experiences.

### GENERAL PRINCIPLES

When planning vocational instruction for students in elementary and middle schools, four general principles should be used as guidelines. *First*, skills and behaviors embedded in the domains of a functional and community-referenced curriculum should be addressed in each student's IEP in

preparation for vocational experiences (Bates, Renzaglia, & Wehman, 1981; Brown et al., 1979; Brown et al., 1983). Skills directly related to the domestic/personal management and community access domains—such as acquisition of a functional means of *communication* (dressing, personal hygiene, toileting, and eating skills) and *mobility* skills (such as negotiating crowds, stairs, elevators, streets, and escalators) should all be addressed initially within the student's IEP during the elementary and middle school years. If this is done, the secondary teacher's foci then may be on generalizing these skills in work environments as well as teaching specific work skills at community vocational training sites.

*Second*, instruction should be conducted within the natural context of functional activities that provide opportunities for distributed practice rather than isolated skill instruction dependent on massed practice. By addressing skills within the natural context, instructors will enable students not only to perform skills in real environments and observe the purpose of the skill within the framework of the larger activity but also to experience the natural reinforcers associated with completion of the activity.

*Third*, instruction should focus on skills applicable in various job descriptions as well as general work adjustment behaviors that relate to vocational tasks in an array of settings (Berkell, 1988). This will enable students to bring to the secondary level general skills they then may practice in a variety of job training settings. Once students move to CBVI at the secondary level, training in specific job skills at selected businesses or industries will take place.

*Fourth*, students should progress through less and less restrictive performance environments to lessen their dependence upon artificial cues (Wehman, Moon, Everson, Wood, & Barcus, 1988; Moon, Inge, Wehman, Brooke, & Barcus, 1990). A restrictive environment requires a considerable amount of teacher supervision, including instruction, feedback, scheduled reinforcement, and systematic prompting. In a less restrictive environment, the emphasis is on training students to attend to natural cues and consequences and developing self-management skills. This is more typical of what occurs in an actual job setting.

Although supervisors and co-workers provide instruction, feedback, reinforcement, and prompting in the work setting, it is less consistent and less structured. This informal and typically available form of support is referred to as *natural supports*. Natural supports are recognized as not only a less restrictive form of instruction but also a feasible alternative for some individuals to the ongoing support required by supported employment regulations (PL 102-569). Teachers

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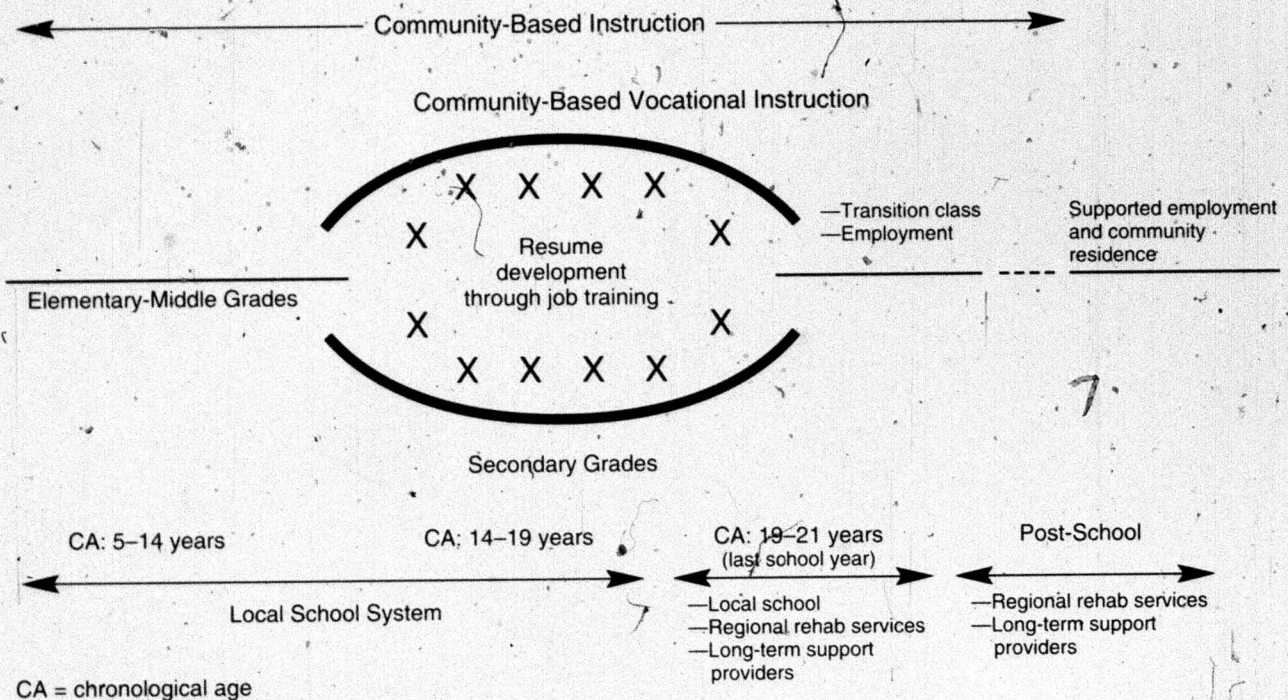
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**FIGURE 1**  
Educational Components of Transition

should move toward an instructional environment that promotes natural supports. Callahan (1992) suggested that the best place to start ensuring that natural supports be utilized effectively is by incorporating this concept into the instructional approach.

### CONTENT AREAS

In implementing these guidelines in elementary and middle school grades, five content areas have been identified as significant when preparing students for future training and employment. The following areas are not meant to be an all-inclusive curriculum, nor are they meant to be a prerequisite set of content areas that must be passed prior to entry into a CBVI program. Rather, they are common generic skills and behaviors that complement instruction contained in a secondary CBVI program and are applicable in various work settings. These skills and behaviors may be incorporated into vocational activities within the school building as an integral component of a functional curriculum. The content areas are: general work adjustment, on-the-job training and

retraining, information-sharing between primary and secondary educators, functional communication skills, and personal behaviors.

### General Work Adjustment

Because job loss for adults with disabilities frequently has been linked to difficulties associated with social and work-related skills, instruction should focus on the student's adjustment to a variety of working environments and development of appropriate work habits and social skills (Cheney & Foss, 1984; Greenspan & Schoultz, 1981; Hanley-Maxwell, Rusch, Chadsey-Rusch, & Renzaglia, 1986). Thus, during elementary and middle school grades, instruction may not be related to any one specific job task. Instead, instruction is based on general behaviors applicable across many vocational settings. Critical behavior content for students includes:

1. *Increasing student stamina and endurance* toward a long-term goal of working approximately two hours

without a break (Wehman, Kregel, Barcus, & Schalock, 1986). Students should be able to work this long in both sitting and standing positions. This goal approximates the requirements of various work situations (Ford et al., 1989).

2. *Following instructions to conclusion.* This includes: (a) one-component local directions (a single direction that does not require the student to move to another location to complete), (b) one-component distant directions (a single direction that requires the student to move to another location to complete), (c) two-component local directions, and (d) two-component distant directions (Scheuerman, Cartwright, York, Lowry, & Brown, 1974).
3. *Accepting feedback and correction* without reacting inappropriately (Calkins & Walker, 1990). Typically, teachers provide feedback in positively phrased statements and tone. In natural work sites, however, feedback is not so carefully delivered. Therefore, students should become accustomed to responding to brusque statements such as "no" or "That's wrong; do it over again." Following this kind of feedback, the student not only accepts the criticism appropriately but also institutes the corrective action indicated by the instructor.
4. *Accepting changes in a task or schedule.* Within future community and work environments students may encounter interruptions or changes in established routines and activities (Moon, Inge, Wehman, Brooke, & Barcus, 1990). To enhance student adaptation, teachers may change daily routines or specific tasks, add or delete an activity on a given day, or interrupt a student's activity midstream to complete a second task before returning to the original activity.
5. *Maintaining on-task behavior.* Establishing the ability to work for a specific time, until a timer sounds or available materials are depleted, is important in sustaining future employment. Youngsters should become accustomed to continuing a specific task until natural contingencies (e.g., time on the clock, end-of-the-period bell) dictate the need to discontinue the activity or to replenish depleted materials and return to the task at hand.
6. *Working for delayed gratification.* Within natural work environments employees must work for extended amounts of time before taking a break or receiving a paycheck (Berg, Wacker, & Flynn, 1990).

The foundation for teaching students to work for delayed gratification may be laid during elementary and middle school years through the gradual thinning of reinforcement schedules. Students learn to work for longer periods of time before receiving any reinforcement or break.

7. *Following a sequence when working with materials* (e.g., from start to finish, left to right, top to bottom, first to last, empty to full). In learning to follow a sequence, students not only learn to complete tasks following a specific order but also learn to follow the natural prompts and cues embedded within the activity.
8. *Following a schedule.* Self-management skills facilitating the movement between tasks is the focus of this component. Schedules may be presented in the form of a written list of activities, a picture schedule, or a clock-based schedule. The clock schedule, which includes matching clock pictures or telling time, should specify time to start, finish, and take a break. Students who are low-functioning or deaf-blind may be taught to follow an object calendar schedule (sequenced objects representing segments of the day).
9. *Comparing a completed product to a model* for both quality and quantity comparison. This relates directly to an individual's ability to look for and correct any mistakes. Young students may be taught to check for mistakes by learning to "scan" and compare with concrete or picture models.
10. *Understanding quantities.* This may include one or all of the following: differentiating more/less, a lot/a little; numbers and their concrete equivalents; ability to put a given number of functional items (up to 12) into an appropriate container and then to "put in one more"; and basic addition functions.

### On-the-Job Training and Retraining

Within the wide variety of businesses typically utilized for vocational training, the tasks and skills encountered often are similar between settings. Hutchens, Renzaglia, Stahlman, and Cullen (1986) referred to these similar tasks as "core skills," those that many businesses require. Project SETS participants identified the following basic skills commonly found across employment settings:

1. *Matching-to-sample.* This includes: (a) matching labels on cans and other types of packaging; (b) matching words, such as toys, housewares, and sea-

- sonal words (e.g., Christmas, Easter); (c) number series, e.g., 7439; and (d) number and letter series, e.g., 14T6. Instruction should progress so that not all labels are neatly typed or printed. Students should be able to match items written in various inks (e.g., felt-tip, pen), sizes, colors, handwritings, and positions.
2. *Sorting.* A student's ability to sort items should progress from items that are highly dissimilar to those that vary only slightly. Types of sorting include: (a) sorting by size, as with clothing and hangers; (b) sorting to prepare for use, such as silverware and hospital supply trays; (c) functional sorting (e.g., complete/incomplete, clean/dirty, broken/unbroken, sharpened/unsharpened, used/unused, identical/not identical, wet/dry, many/few); and (d) sorting various items of clothing by type, gender use, and size.
  3. *Imitating a model.* Students should be able to imitate not only a teacher but also a supervisor or co-worker. In the workplace with natural supports, new tasks, or task variations will be modeled by a co-worker or supervisor for the student to imitate. Through imitation, students learn to perform desired behaviors (Snell & Zirpoli, 1987). Educational experiences involving many different instructors facilitate the generalization of imitation skills.
  4. *Assembling/disassembling items.* A number of activities in businesses involve assembling or breaking down items. Examples include: packaging, mailing packets, rolling silverware, preparing trays for meals, and packaging patient supplies.
  5. *Performing specific motor actions.* Table 1 presents a variety of significant motor functions in which the same verbal cue may require a different motor performance, depending upon the objects or materials used.
  6. *Gathering and laying out materials according to a list.* Applicable in a variety of settings (e.g., grocery store, classroom, kitchen, jobsite), this skill may be taught utilizing written or tape-recorded lists. Students may learn how to check-off items as they are retrieved, gather cleaning materials from a closet, or check inventory as it is unloaded.
  7. *Cleaning or clearing a work station.* This activity is generally considered a component of the total job task. Therefore, students in elementary and middle school should become accustomed to cleaning their own work areas by returning excess materials, wiping tables, and disposing of trash.

**TABLE 1**  
Motor Actions Performed Utilizing  
Various Materials and Placements

Motor Action	Materials
In/Out	purse, lunch box, brown bag, backpack, vending machines and money changers, cabinets
Open/Close	thermos, box, envelope, twist-top jar, milk carton, jacket, zipper, doors, windows, refrigerator, microwave
On/Off	clothing, light switches, push buttons, faucets
Placements	here/there, under/over/on top of, up/down, next to/in front of/behind, putting through, pressing hard, twisting

#### Information-Sharing Between Primary and Secondary Educators

Because students eventually will participate in community-based vocational activities, Hutchens et al. (1986) suggested that training variables for younger students be based on actual job-related experiences. Therefore, educators working in CBVI programs should share knowledge of specific activities relevant to job opportunities available in the local community with elementary and middle school teachers. Table 2 outlines specific activities conducted at one school district's CBVI sites. The training sites include hospitals, motels, cafeterias, fast-food shops, department store and discount retailers, nursing and retirement homes, and grocery stores.

#### Functional Communication Skills

These skills provide a vehicle for greater acceptance, achievement, and social interaction for students and "must be identified and taught to individuals with mental retardation to help them secure and maintain competitive employment" (Chadsey-Rusch, 1986, p. 273). Students should be able to communicate, either verbally or by an augmentative/alternative communication system, certain basic content for successful community training. The expressive message should be understandable to anyone by the student's second

**TABLE 2**  
Examples of Actual Training Site Activities

Activity	Materials
Filling containers	salt and pepper shakers, liquid condiments, napkin holders, drinking glasses, cole slaw cups, pudding bowls, sour cream containers
Lining items on trays (and putting on lids)	glasses of water, juice, condiment jars
Stocking shelves	cans, books, bottles, plates, trays, shoe boxes, linens
Sorting	silverware, hangers, dishes, clothing
Cleaning (including vacuuming and sweeping)	floors, carpets, tables, sinks, chairs, dishes
Folding	towels, bed linens, clothing
Hanging	pants, shirts, coats
Landscaping	plants, rakes, shovels, other gardening tools
Cleaning and polishing (checking for cleanliness and streaks)	windows, mirrors, chrome, shelves
Painting	small pieces of furniture

attempt to make himself or herself understood (Rusch, Schutz, & Agran, 1982). Content for functional communication training should include student instruction in relaying:

1. *Personal information.* Studies of potential employers, such as the Illinois Survey (Rusch et al., 1982), provide some guidance as to the content of personal information to be conveyed (full name, home address, telephone number, and age). This information may be expressed either verbally or with an ID card the student presents. Other communication includes means to express basic needs such as illness and pain (touch own body or body card on a communication board), thirst, and the need to use the restroom.

2. *Supervision and assistance vocabulary.* The ability to request information or assistance and to understand directions from a co-worker or supervisor is often essential for completing a task (Buckley, Mank, & Sandow, 1990). Students must be taught to use appropriate social skills and vocabulary when seeking and obtaining assistance from others. This vocabulary may include: "Help," "I'm finished," "I need more," and "I don't understand." Students also should have a receptive understanding of "equal to," "more," and "not enough."
3. *Social vocabulary.* This refers to vocabulary associated with integrating students naturally into the work environment and initiating social relationships. To develop a social vocabulary for youngsters in elementary and middle school, students should be afforded opportunities to practice using statements such as "please" and "thank you" and expressions for initiating and responding to greetings. Buckley, Mank, and Sandow (1990) identified "break- and free-time interactions" as one in a class of three interactions related to social acceptance in the workplace. Alberto, Elliott, Wilkins, Taber, and Brown (in progress) noted that social conversations in many workplace breakrooms include discussions about family members and their activities, the weather, television programs, sports events and local teams, and songs on the radio. Thus, training students to use vocabulary related to common topics should help to foster social acceptance in future environments.

### Personal Behaviors

The targeted personal behaviors are those that promote social acceptance and independence and often are associated with maintaining a job (Chadsey-Rusch, 1990; Snell & Browder, 1987). These behaviors range from self-control of inappropriate behaviors to utilizing self-management skills. Behaviors identified as important for job maintenance that may be taught and practiced prior to CBVI placement are:

1. *Self-control of vocal and motor behaviors.*
2. *Breakroom behaviors,* including independent retrieval and preparation of lunch and independent operation of vending machines.
3. *Independent use of public/employee restrooms.*
4. *Appropriate grooming, hygiene, and dressing.*

5. *Self-recording, self-observation, and self-instruction* for regulating on/off-task behaviors.
6. *Self-monitoring* of the quantity and quality of tasks or products.
7. *Eating with appropriate manners* and as independently as possible.

Reinforcement should be structured toward student understanding and acceptance of intrinsic reinforcement. By systematically moving from tangible reinforcers to verbal/social reinforcers and gradually thinning schedules, student motivation will focus on the work product. This programming assists in building a student's self-esteem and pride in the quality and completion of his or her work, which then serve as intrinsic reinforcers.

## ACTIVITIES

When designing school-based vocational activities, teachers should arrange tasks that have a functional appearance, serve a working purpose, and are not immediately disassembled and put back into a closet. Activities selected for training should be age-appropriate, taught in natural and integrated environments, and adapted for student preferences (Bishop & Falvey, 1989). These activities provide students with severe disabilities firsthand experience with vocational skills and work-related behaviors.

Educators of elementary and middle school students must provide sufficient opportunities for practice and skill generalization. The combined training opportunities in the community and simulated school-based experiences provide an appropriate instructional format for increasing student skills.

Nietupski, Hamre-Nietupski, Clancy, and Veerhusen (1986) suggested basic guidelines for the effective use of simulation. An ecological inventory of community settings should be conducted to identify relevant features such as physical layout, steps in the task, and natural cues that occasion appropriate responses. To the extent possible, these features should be incorporated within classroom simulations and, over time, the features of several settings should be incorporated to provide for generalization. Simulated instruction should be scheduled immediately prior to or following community-based experiences.

Student data collected during community experiences should be used to identify performance discrepancies and error patterns. The information gathered will be utilized to determine which skills require more practice so they can be performed satisfactorily in community settings. These areas

identified for instruction will be incorporated within the simulated classroom activities for intensified practice.

School-based vocational activities that may be appropriate for students in elementary and middle school include:

1. *Recycling.* A wide variety of materials may be recycled within a school building. Students might participate in collecting recyclables; separating and sorting newspapers, inserts, junk mail, and glass; cleaning and crushing aluminum cans and plastic bottles; and tearing pages out of phone books. Students also may deliver prepared materials to the local recycling center for redemption.
2. *Mailroom/office.* Students can gain experience by sorting and delivering mail to various school personnel, stocking shelves with mailroom supplies, and running the copy machine. Students also may work with the office staff in collating, stapling, and preparing fliers.
3. *Landscaping.* This may be a year-round activity in which students gain experience in planting and tending a garden, using various gardening tools, and harvesting plants and vegetables. Although gardening often is considered a leisure activity, many vocational skills may be taught as well.
4. *Library.* Students may check in/check out books using a rubber stamp or a computer scanner, reshelve books, dust and straighten shelves, and straighten or clean reading areas. Students also may be paired with nondisabled peers to carry out many of these vocational tasks.
5. *Cafeteria and building maintenance.* In the cafeteria students may wipe tables, sort silverware, sort money, stack chairs, and sweep the area. Within the building maintenance areas students may empty classroom trash containers, sweep hallways, and stock bathroom supplies.

As noted, activities should combine in-school and community experiences. As students progress through grade levels, the number of hours in the community should increase. Table 3 presents recommended community training hours according to grade level. Community experiences for students in elementary and middle school grades may be expanded to include training in some community businesses. Federal guidelines exist, however, which must be followed when implementing vocational training for students in these grades. According to the U.S. Department of Labor (Publi-

cation WH 1330, August, 1990), employment regulations for all students under age 16 (disabled and nondisabled) limit community-based vocational training. These limitations are presented in Table 4.

**TABLE 3**  
Recommended Amounts of Time for  
Community-Based Instruction

Grade Level	Times Per Week	Hours Per Week
Primary (grades K-3)	One time	One hour
Elementary (grades 4-5)	Two times	One hour each
Middle (grades 6-8)	Two times	90 minutes each
High school: Ages 14/16-18	Two to three times	90 to 120 minutes each
Ages 18-22	Four to five times	Minimum of two hours each

### FULL CBI PROGRAM

All of the suggested vocational content areas assume the benefits of a full community-based instruction (CBI) program in the elementary and middle grades. The CBI program should infuse within each community experience elements of career awareness and exploration. Each time elementary students are in the community, whether visiting a pet store or shopping in a grocery, the teacher should make a point of identifying workers by job title and what they do. As examples: "This is the stockperson who puts cans on shelves," "the baker who makes bread and cookies," "the cashier who takes your money when you pay." Job categories should be reviewed by location, as in people who work in grocery stores, in hospitals, and in restaurants.

During the upper elementary and middle school years, career exploration expands as the number, variety, and amount of time in CBI experiences increases. Job titles and responsibilities continue to be identified. Discussions in class expand to include the good things about the job, why one would or would not like the job, how the workers dress, and what they do in the morning to get ready to go to work. In the community and classroom one objective should be to teach the vocabulary associated with jobs, such as "busing tables," "stocking shelves," "delivering trays."

**TABLE 4**  
Department of Labor Guidelines for Age and Training Opportunities

Under age 14:	No student may participate in vocational training sites in the community prior to age 14. The only exceptions to this are positions in which persons are not regularly salaried. For example, volunteers in nonprofit organizations fold bulletins and chairs in church, package materials for the Red Cross, and stuff envelopes for the local ARC. Training agreements must be negotiated through the office of volunteer services rather than the office of personnel.
14- and 15-year-olds may be trained in the following areas:	Office and clerical work, cashier and other retail shop duties, errand and delivery work, clean up and ground maintenance, kitchen work, and cleaning vegetables and fruits.
14- and 15-year-olds may not be trained in the following areas:	Manufacturing, food processing, commercial laundry and dry-cleaning, transportation, warehousing or storage, construction, maintenance and repair of machinery or equipment, any work requiring use of ladders and scaffolding, cooking and baking (except soda fountains, lunch bars, and cafeteria serving areas), power-driven food preparation equipment, loading and unloading goods from trucks and conveyors, and any occupation in a warehouse except office or clerical.



Beginning vocational content in the elementary and middle grades recognizes the limited time the secondary teacher has for job training and the greater learning time needed by students with moderate and severe disabilities. The extent of the content, the type of adaptations provided the student, and the nature of alternative performance strategies depend on a student's level of functioning at any given time. Community and vocational experiences should be extended into as many different environments as possible so students will generalize learning and experience performance requirements in various settings.

A combination of actual community experiences and simulation activities is necessary within a vocational program. As noted, however, for simulation activities to have valid educational outcomes, replication of natural cues should be provided to establish stimulus control of student responses and natural consequences for student behavior.

Vocational planning and instruction should be a coordinated curriculum effort among elementary, middle, and secondary teachers. Because the elementary and middle school teachers target communication, mobility, and the content areas discussed, the need for initial instruction or remediation of these skills at the secondary level should be less. Coordination allows for a logical continuum so secondary teachers may focus on the generalization of those skills and the development of job-specific skills at community vocational training sites.

A coordinated program of instruction across grade levels should not be a basis for denying a student entry into CBVI because of an inability to achieve certain "prerequisite" criteria during elementary and middle school grades. Rather, the content presented should be viewed as basic content that may assist students in progressing more efficiently through a secondary CBVI program.

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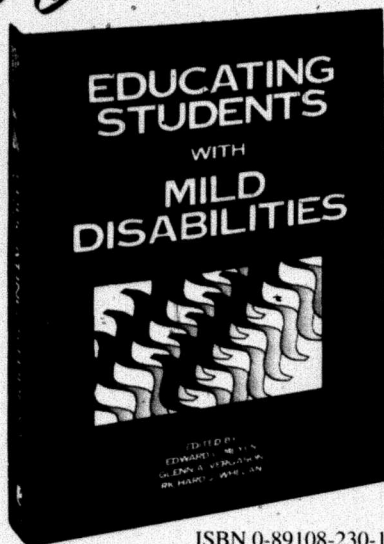
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