Students With Multiple Disabilities

LEARNERS WITH MULTIPLE DISABILITIES present such significant challenges to educators that—at first glance—the prospect of designing curriculum for them could appear overwhelming. The task need not be daunting, however. Knowledge in four broad areas can guide the development of valid, cohesive, and effective curricula for students with multiple disabilities:

- a positive understanding of the challenges involved,
- valid assumptions about the students’ abilities and instructional variables,
- inclusive approaches to curriculum design, and
- the scope and sequence of relevant curricular areas.

Challenges

Educators sometimes view disabilities and the resulting challenges as the most significant factor in designing curriculum and intervention for students with multiple disabilities. Curriculum content for students with multiple disabilities, however, rarely is determined by disability diagnoses, IQ, or test scores. Nevertheless, understanding the disability-related challenges involved in planning curriculum for this population can avoid pitfalls and lead to effective intervention. Several interrelated challenges are involved (Jones & Jones, 2003).

Multiplicty

Deaf students with multiple disabilities have the educational needs of deaf students plus the educational needs associated with one or more additional disabilities. In addition, the interaction of the disabilities creates educational needs that are not characteristic of any single disability. For example, a deaf student with mental retardation has learning needs that neither a typical curriculum for deaf students nor
a typical curriculum for students with mental retardation would address (Jones, 1984).

**Heterogeneity**

Most schools in the United States today serve students with a wide range of ethnic backgrounds, learning styles, family support systems, and educational histories. Students with multiple disabilities bring to the educational setting not only all of these variables but also those associated with their combination of disabilities (Jones, 1984). As a consequence, effective curricula for students with multiple disabilities must be individualized and unique.

**Low Incidence**

Compared with single disabilities, the overall incidence of multiple disabilities is low. As a subcategory of students who are deaf or hard of hearing, the number of students with multiple disabilities is extremely small (Holden-Pitt & Diaz, 1998). Holden-Pitt and Diaz report approximately 7,000 deaf students with multiple disabilities, for example, compared with almost 3 million students with learning disabilities and 612,000 students with mental retardation (U.S. Department of Education, 2002). Consequently, few curriculum guides, professional materials, and training opportunities are available to teachers working with this population (Jones & Jones, 2003).

**Diagnostic Delays**

The diagnosis of second and third disabilities is often more difficult than diagnosing a single disability (Jure, Rapin, & Tuchman, 1991; Moeller, 1985), and parents and professionals often delay recognizing or accepting diagnoses of additional disabilities (Meadow-Orlans, Smith-Gray, & Dyssengaard, 1995; Schuyler & Rushmer, 1987). Consequently, appropriate intervention may be implemented too late to be effective. The result can be developmental delays that curriculum planning should address.

**History of Failure**

Each of these factors can postpone intervention or cause it to be ineffective. As a consequence, many students with multiple disabilities experience failure for a significant period of time (Jones & Jones, 2003). As part of the curriculum development process, educators should consider the potentially deleterious effects of failure experiences on skills, behavior, and self-esteem.

**Assumptions**

Assumptions about learners and their environments can guide curriculum development and ensure that the resulting courses of study are valid and meaningful. Simi-
larly, certain positive assumptions about deaf students with multiple disabilities can make the curriculum design task for this complex population both manageable and effective. Each of the following has specific implications for the scope and sequence of an individualized curriculum and the selection of specific educational objectives for deaf students with multiple disabilities.

Every Child Can Learn

Although this assumption may seem self-evident, educators might not believe it when facing a student whose disabilities are multiple and severe (Ewing & Jones, 2003). Individuals with significant needs are capable of learning and learning well (Oelove & Sobsey, 1996). Educators who recognize this fact will ensure positive learning environments for each individual. The assumption that every child can learn implies that intervention and curriculum design should begin with the student rather than with predetermined content. It also indicates the need to consider nonacademic areas and to task-analyze objectives into small manageable steps.

Students With Multiple Disabilities Are Unique

The heterogeneity and low incidence of students with multiple disabilities, described previously as challenges for educating them, ensure that each has a unique combination of needs and abilities (Jones, 1984). This assumption implies that curriculum designed for these students should be individualized, with content, objectives, scope, and sequence tailored to each student.

Educational Outcomes Should Be Functional

Goals for students with multiple disabilities—like those for all students—should enable them to function as productively and independently as possible in the mainstream of society. This assumption requires that each student’s curriculum be future oriented, practical, and meaningful (Carpenter, 1995).

Intervention Should Be Compensatory, Rather Than Remedial

Remedial curricula focus on correcting or ameliorating the child’s disability—auditory training and physical therapy are familiar examples. In contrast, compensatory curricula emphasize utilizing the child’s strengths to acquire skills that the disability would seem to prevent—a child who does not have functional language, for example, might be able to learn to use a picture menu to order in a restaurant.

Peer Acceptance and Social Relations Are Essential for All Students

The skills that most learners with multiple disabilities need most—linguistic skills and social skills—are best learned from peers. In addition, all children yearn for peer acceptance. Children who from an early age are included with peers of all ability levels
gain invaluable linguistic and social skills that will affect their lives positively. Peer tutors, mentors, and models provide very powerful learning opportunities for children with multiple disabilities. A curriculum that emphasizes social skills will help the students succeed in the general school setting, as well as in the larger community and society, and prepare them for successful adulthood (Ewing & Jones, 2003).

The Transdisciplinary Model Prevents Fragmentation

Numerous service providers from different disciplines plan curriculum and other aspects of intervention for students with multiple disabilities and their families. In contrast to other team models, the transdisciplinary model has the most potential for coordinating and integrating this diverse expertise to plan intervention for complicated children with multiple disabilities (Orelve & Sobsey, 1996). Using a transdisciplinary model, curriculum planners share information and skills collaboratively across traditional disciplinary boundaries (Ewing & Jones, 2003).

Families Are Critical for Success

Just as many different professionals working in isolation do not optimally benefit the child, curriculum design for students with multiple disabilities is incomplete without the child’s family. Families often know the child best, especially when communication issues occur. Family input helps define valid long-range goals, and the home environment provides fodder for functional curriculum goals and objectives (Ewing & Jones, 2003).

Approaches to Curriculum Design

Two common approaches to determining curriculum for students with multiple disabilities do not satisfy the assumptions described previously. In norm-based approaches, the child’s overall developmental level, instructional level, or test performance typically leads to placement in a preexisting curriculum. In criterion-based approaches, the child’s performance within a predetermined hierarchy of tasks is used to establish objectives for advancing the child’s performance through the hierarchy. Although these approaches may have elements of individualization and functionality, they often result in curricula that are fragmented, meaningless, and ineffective.

As described previously, curriculum for deaf students with multiple disabilities should be individualized and functional, and its design should involve families and professionals in disciplines relevant to the child’s needs. Three approaches, in particular, provide a method for determining educational objectives that are meaningful and appropriate, regardless of the student’s age or functioning level: person-centered planning, ecological assessment, and adapting a general education curriculum.
Person-Centered Planning

Person-centered planning is a process that results in individualized programs that are designed to meet each student's unique needs (O'Brien & Lovett, 1992). It involves bringing together the child, the child's family and friends, and professionals involved with the child. Together, they participate in a series of meetings to learn as much as possible about the child and to plan for positive outcomes for the child. The process should capture in writing what is important both to and for the child. Likes and dislikes, routines, capacities, talents, hopes, fears, and desires for the child should be discussed. The outcome should be a plan for making the desires happen and commitment to implementing the plan. Several approaches to person-centered planning are available. These include (a) McGill Action Planning System (Forest & Pearpoint, 1992); (b) Individual Service Design (Forest & Pearpoint, 1992); (c) Essential Lifestyle Planning (Smull & Harrison, 1992); (d) Personal Futures Planning (Mount & Zwernik, 1988); (e) Whole Life Planning (Butterworth et al., 1993); and (f) Group Action Planning (Blue-Banning, Turnbull, & Pereira, 2000). Although each has slightly different ways of executing the process, all result in clear articulation of the each child's unique qualities and realistic and positive outcomes for the child. A person-centered plan crystallizes the goals and objectives for an appropriate individualized education plan. Because the plan includes implementation strategies, it ensures that the goals and objectives will be achieved.

Ecological Assessment

Unlike traditional approaches to determining curriculum, which focus on the child's performance levels, ecological assessment focuses on the environments in which the child exists.

The process yields individualized educational objectives that meet the assumptions described previously (Jones & Ross, 1998). Four broad steps are involved:

1. List the subenvironments in which the student is functioning. These typically include various areas of the school (e.g., classroom, hallway, cafeteria), home (e.g., family room, kitchen), and community (e.g., grocery store, doctor's office).
2. Inventory the activities that typically occur in each subenvironment (e.g., selecting food, paying, eating, socializing, etc., in the school cafeteria).
3. For each inventoried activity, list the skills typically needed to perform the activity (e.g., paying for food may require recognizing the amount due, selecting an appropriate amount to give the cashier, and pocketing the change).
4. Prioritize all of the inventoried skills across activities and subenvironments for the learner.

Only the first and fourth steps consider the learner for whom the curriculum is being designed. The second and third steps focus on what most people do in each subenvironment.
An educator—or a transdisciplinary team—who completes this process will have a long list of meaningful objectives. Prioritizing them for the assessed student ensures that the resulting curriculum is meaningful to the student and will lead to increased independence. The curriculum designer can group the objectives into domains, and instruction can proceed.

**Adapting a General Education Curriculum**

Teachers working with students with multiple disabilities often adapt curriculum to meet the needs of students with multiple disabilities. Strategies such as cooperative learning, demonstration, peer tutoring, and small-group instruction have enabled students with multiple disabilities to become successful members of inclusive classroom communities (Downing, 2000; Jones & Ross, 1998).

Although little or no research has been conducted on deaf students with multiple disabilities using the general curriculum, a parallel can be drawn from general special education literature (Ewing & Jones, 2003). Future research in this area is indicated. Special education research documents the advantages of the general education curriculum in inclusive settings for students with disabilities and their peers without disabilities. Benefits for students with disabilities include increased language and pronounced academic gains. Their peers demonstrate greater acceptance and understanding of peers with disabilities (Downing, Eichinger, & Williams, 1997). Similarly, Rafferty, Piscitelli, and Boettcher (2003) reported gains in language development and social acceptance. Freeman and Alkin (2000) found much higher academic performance for students with mental retardation in inclusive settings using the general curriculum compared to segregated special education classrooms following a special education curriculum.

Students with multiple disabilities have the right not only to access a general education curriculum but also to have that curriculum adapted to maximize their opportunities for learning. Planning for the student with multiple disabilities should begin before the curriculum is implemented to ensure that adaptations are effective. The preparation for adaptations should include a careful assessment of the individual student, with ecological assessment or person-centered planning as discussed previously. Only after the individual needs of the student are clear can educators identify the adaptations needed in the existing curriculum.

Numerous variables may be manipulated to individualize curriculum and instruction. The following curriculum components are examples:

1. **Materials for study.** Teachers can use textbook and other materials with levels of difficulty matched to the child's instructional level. In addition, rather than standard materials, they can choose from a wide array of materials, including those that provide an experiential knowledge base through literature, art, music, newspapers, journals, and magazines.
2. **Method of study.** Thematic instruction and cooperative learning are among the most effective strategies for diverse learning needs in small or large groups of students (Fuchs & Fuchs, 1997; Slavin, 1995).
3. **Pace of instruction.** Variations in pace may help accommodate the wide range of ability levels that result when students with multiple disabilities are included in the general education curriculum with their nondisabled peers. This may include slowing the pace of instruction for some students so that they can experience success in mastering portions of the curriculum. In contrast, some students with hyperactivity or attention disorders may benefit from an increased instructional pace (Munk & Repp, 1994).

4. **Learning focus.** Learning should identify and focus on shared values, attitudes, and the problem-solving process that are most relevant and interesting to all students, including those with disabilities.

5. **Instructional setting.** Teachers should not limit themselves to classroom instruction but should provide as many opportunities as possible for students to acquire skills in the community and other nonschool environments.

6. **Evaluation of learning.** To make learning more relevant for students, the curriculum should include structured evaluation and self-evaluation opportunities. Teachers can provide such learning experiences by using authentic assessment strategies (Grenot-Scheyer, Abernathy, Williamson, Jubala, & Coots, 1995).

### Curriculum Content for Students With Multiple Disabilities

For a variety of reasons, many students with multiple disabilities have special educational needs that go beyond the scope and sequence of the general education curriculum. These include the areas of literacy and functional academics, communication and language, social and behavioral skills, motor skills, and life skills.

#### Literacy and Functional Academics

Literacy and other academic curricula can take many forms for deaf students with multiple disabilities. Some may able to complete the typical literacy and academic curricula offered to their peers without multiple disabilities. Others may need instructional or response modifications (e.g., using a switch-activated computer or a Braille writer) but no curricular modifications.

Other deaf children with multiple disabilities need literacy and academic curricula that support successful functioning in daily life activities. Developing such functional curricula begins with studying each child's personal plan—developed during person-centered planning meetings—to identify the child's current and future skill needs. Ecological assessments conducted to support each child's personal plan will also identify needs. Finally, comparing these needs against the general education curriculum available to the child will result in an individualized, functional curriculum that can address a child's needs as they interact and learn with other deaf children. *Choosing Options and Accommodations for Children (COACH)* (Giangreco, Cloninger, & Iverson, 1993) provides a process for addressing functional academic needs within general classroom settings that is adaptable to classrooms for deaf children with multiple disabilities.
The content for a functional literacy or language arts curriculum should address socialization, recreation, vocational, safety, and daily life skills needs. Such a curriculum could include areas such as reading and writing one’s name and other personal information, reading and applying schedules, reading recipes and making shopping lists, reading for household tasks such as laundry, reading product warning labels or environmental signs, and reading menus (Browder & Snell, 2000; Ford et al., 1989; Westling & Fox, 2000).

A student’s age, years remaining in school, functioning level, and student and family desires should be considered when developing a functional literacy or language arts curriculum (Browder & Snell, 2000; Westling & Fox, 2000). Instruction in reading a list of sight words from a science or social studies unit can enable the student to participate more meaningfully alongside peers. Learning to read favorite website names on the list of “bookmarks” permits students to return to these favorite sites while surfing the Internet, perhaps with friends. Mastering sight words from one of the standard lists (e.g., Dolch, 1948) might be appropriate for a younger child because the words on these lists are often useful in daily life activities, such as following recipes, using television listings, and checking weather information (Browder & Snell, 2000; Ford et al., 1989; Westling & Fox, 2000). Reading instruction should focus on comprehension, not simply word recitation, so that reading is meaningful. Embedding reading instruction within practical learning activities ensures such comprehension (Browder & Snell, 2000; Westling & Fox, 2000).

Pictures can be as important as reading words for many children with multiple disabilities. Picture menus can permit independent food selection in a restaurant. Reading product labels can permit independent shopping in the market. Daily life tasks, such as brushing teeth, doing laundry, or reading recipes, can be translated into a series of pictures or picture symbols to permit independence (Robertson, Gravel, Valcante, & Mauer, 1992). Reading pictures in magazines can be a very enjoyable recreational activity. Pictures can support a level of independent functioning that might not be possible if only written words were used.

Writing is also an important part of a functional academic curriculum for deaf children with multiple disabilities. Being able to write simple notes can support independence and socialization. If physical disabilities impede writing with pen or pencil, a computer and printer can be used. Words and phrases can be available via commercial or individually developed software so that spelling is unnecessary. Writing can also be accomplished with pictures and symbols. Product labels can be scanned, sized, and printed from a color printer to make shopping lists, for example. Magazine pictures or picture symbols can be grouped to write a story.

Functional mathematics also is an important part of functional academics. A functional mathematics curriculum would include counting and applying written numerals with quantity concepts, reading costs, making purchases, making basic calculations with or without calculators, telling time, applying basic time-management skills, and measuring (Browder & Snell, 2000; Westling, & Fox, 2000).

For younger children, functional social studies and science curricula can draw from general education curricula. Learning about one’s family and community, for example, as well as about cultures of the various children in the class, will be meaningful
for young deaf children with multiple disabilities as well as their peers. A functional social studies curriculum for older elementary, middle, and high school age children might include learning about making rules to govern how we live and work, or our local, state, and national leaders and how we elect them. Although not to the depth that their peers without disabilities might study these topics, the study will provide opportunities to interact and participate with these peers and can lead to gains in communication and social skills. For example, a functional science curriculum might focus on learning names (e.g., spider, beetle, bug, worm, earthworm, or body parts) or learning to associate dress with weather while the remainder of the class might be studying the unit in depth.

Communication and Language

The ultimate goal of a communication curriculum is to provide learners with effective communication systems (Kaiser, 1993). Deaf children with multiple disabilities need the same kinds of experiences and interactions that all children need to acquire such systems (Ewing & Jones, 2003). Facilitating their communication and language skill acquisition, however, requires tailoring the experiences to accommodate each student’s very unique needs. This often means using modalities other than vision, the primary modality used to teach deaf children, because the children’s other disabilities—autism, impaired vision, cerebral palsy, cognitive impairments, or brain injury—may interfere with processing information presented through vision channels (Jones & Jones, 2003). In many cases, combining modalities may enable children with multiple disabilities to acquire both receptive and expressive language skills.

A number of disabilities, including cognitive delays, autism, cerebral palsy, and some learning disabilities, affect children’s abilities to pay attention. Increased time to attract and maintain attention during communicative interactions beyond that typically required for deaf students may be necessary. Also, some students may need additional time to process incoming information and form responses. Reinforcing the incoming information with pictures or words may aid comprehension. Children who are deaf-blind require longer processing time when using a visual or tactile modality to receive information. Deaf children who have attention deficits may require increased time to acquire and maintain their attention for communication or—alternatively—they may require an increased pace of communication (Munk & Repp, 1994).

Augmentative communication approaches play a key role in communication systems for students whose mental or physical disabilities limit the movements needed to sign intelligibly. The use of augmentative communication is not limited to deaf children with disabilities such as cerebral palsy, autism, or mental retardation. Some children without a categorical disability diagnosis may have a type of motor apraxia that makes forming signs difficult. Including some type of augmentative communication in their communication systems permits these children to express themselves more fully.

Students using augmentative communication systems may communicate by selecting objects, pictures, picture symbols, textured symbols, or printed or brailled words to communicate. They may communicate by touching, looking at their selection (eye-
pointing), handing their selection to a communication partner (symbol exchange), or by choosing their selection when a device or someone else offers choices (scanning or stepping). For further information see Reichle, York, and Sigafos (1991).

The augmentative communication vocabulary can be organized and displayed in a variety of ways. Children in wheelchairs, for example, often have augmentative communication boards or electronic communication devices attached to the trays of their wheelchairs. Children who are mobile might carry their symbols in a special bag, notebook, or communication wallet containing their pictures or symbols.

A variety of portable electronic communication devices that speak the selections are available. Although the deaf child might not hear the selection, these devices have a variety of advantages. Children who are not mobile can use such devices to call hearing peers or teachers to them to initiate communication, an important communication goal for many deaf children with multiple disabilities. Spoken communications are beneficial to hearing communication partners, especially peers and strangers, who may not readily understand the chosen symbols without interpretation.

Social and Behavioral Skills

Social and behavioral skills (e.g., friendship, community membership, turn taking, seeking and gaining attention, play, cooperation, transitioning, and conversation skills) are often overlooked for children with multiple disabilities. Teachers who incorporate social and behavioral goals throughout the curriculum, however, provide their students with lifelong benefits in many areas of functioning.

Social competence must be explicitly taught. Published sources, such as the “Social Cues Questionnaire” (Gray, 1993) can provide guidance for the areas that should be addressed. Careful observation by members of the transdisciplinary team also may yield social skills goals.

Rubin and Rose-Krasnor (1992) found that children with disabilities must have access to their nondisabled peers in order to develop social skills. In mixed-ability classrooms, cooperative learning strategies have enabled students with disabilities to make gains in peer relations, academics, and social skills (Fuchs & Fuchs, 1997) and have increased social competence in students both with and without disabilities (Slavin, 1995). Curriculum guides for teaching social skills to diverse groups of learners provide suggestions and activities that facilitate mutually enjoyable and reciprocal play among children, while expanding each member’s social and symbolic play repertoire (Wolberg, 1999). Short stories describing a situation, concept, or social skill are meaningful to individual children. Called “social stories,” this tool can be integrated throughout the curriculum from preschool through adulthood (Gray, 2000).

Historically, teachers have emphasized behavior as a way of maintaining order within the classroom. A student exhibiting behavior that was considered “out of the norm” was viewed as a child who needed to be brought under control. Disruptive behavior, however, may be one of the most effective communication tools that children with multiple disabilities have at their disposal. Communication difficulties correlate highly with problem behaviors (Durand, 1990). Rather than viewing behavior as a problem to be eliminated, teachers should determine the function that the behavior
serves for the child (Durand, 1990). Problem behaviors—like communication—can serve many functions. The function is valid for the student and has been learned, which means that appropriate replacement behaviors can also be learned. Some possible functions of behaviors are (Alberto & Troutman, 2006) these:

- to gain attention from teacher, parent, or peer;
- to acquire something tangible (e.g., object, activity, or event);
- to obtain sensory stimulation (e.g., visual, auditory, olfactory, gustatory, or kinesthetic stimulation);
- to escape from inappropriate or demanding tasks (e.g., social interaction, attention, activity, event, or object); and
- to escape from internal stimulation that is painful or discomforting.

"Functional assessment" provides a method for determining the function of a problem behavior. Teachers, parents, and professionals can conduct such functional assessments to identify replacement behaviors that will provide students with socially appropriate means to meet their needs without having to resort to problem behaviors. The Motivational Assessment Scale (Durand & Crimmins, 1990) can be used to determine the functional significance of behaviors. Once educators determine the functions of problem behaviors, they can design positive behavioral supports increase the student's prosocial behavior and improve the student's quality of life (Falvey, 1997).

**Motor Skills**

Given adequate nutrition, a safe environment, access to proper activities and experiences, and good health, children's gross and fine motor development follows a typical sequence (Finnie, 1997). Curricula designed to support young children's physical development provide ample opportunities for children to walk, run, skip, jump, climb, throw, carry, balance, build, cut, draw, work with puzzles, and use modeling clay. As the children engage in these activities, they also learn valuable language, social, and communication skills and enhance their concept development.

The goals of a motor skills curriculum for deaf children with multiple disabilities should provide activities to facilitate acquisition of gross and fine motor skills necessary for functioning in all aspects of their daily lives. The exact skills that the curriculum will focus on will depend on each child's needs and any needed modification to the child's mode of executing these skills. In addition, the student might be older but still developing motor skills generally associated with younger children. Ambulation skills are a good example.

Walking, running, skipping, and hopping are forms of ambulation. Some are more recreational (e.g., jumping or hopping) whereas others enable movement from place to place. A deaf child with multiple disabilities might need a walker whereas another might need a wheelchair to move from place to place. A motor skills curriculum for children with such adaptive aids might involve providing activities that permit the children to practice and refine their modified ambulation skills. One child might practice learning to control a motorized wheelchair on a computer during computer
time and later practice with the actual wheelchair in the classroom and school. An
other student might practice very refined wheelchair control while competing in
basketball game with classmates. Softball games might be modified so the child who
uses a walker can still "run" the bases with the walker.

In general, work on motor skills can be integrated into other activities (Campbell
1995). All activities involve motor skills, so integrating motor work throughout the
day is natural. Cutting strips of paper to learn and practice cutting makes little sense
in isolation. Cutting strips of paper and then making a paper chain to decorate a
bulletin board does. Locating and then cutting pictures from magazines to illustrate
a story integrates functional reading and language along with fine motor work. In-
volving classmates makes the activity an excellent social experience as well. Writing
the story might mean using a switch to select letters or words as the computer scans
operating an augmentative communication program—the fine motor activity of writing
for one deaf child with multiple disabilities.

Life Skills

Students with multiple disabilities, like all students, attend school to gain the neces-
sary skills for lifelong learning and successful community membership. Much of the
information that schools typically provide is academic instruction geared toward the
goals of attending college or vocational school in the postsecondary years. Students
with multiple disabilities also need preparation for life after school but a typical aca-
demic education may not meet their needs. Instead, they may benefit from curricu-
um content that addresses life skills. Life skills contain several key areas of learning,
including vocational preparation, recreation and leisure education, community living,
and health and sex education. A life skills curriculum fosters independence as well as
prepares students for life after the classroom.

Only 15.6% of people with disabilities who have less than a high school diploma
participate in today's labor force (National Center on Secondary Education and Transi-
tion, 2004). Vocational education, however, should increase that percentage. Such a cur-
culum may include prevocational skills that could be applied to many different jobs,
independent living skills, community-based work experiences, and job coaching.

The Individuals With Disabilities Education Act requires that plans for transition
to life after school should begin by age 14 (Hasazi, Furney, & DeStefano, 1999). Such
planning provides information and guidance for vocational programming. Transdisci-
plinary teams should work to maintain high expectations and to afford students
sufficient opportunities to acquire vocational education, service learning, community
work experience, and adult living skills (Johnson, Sharpe, & Stodden, 2000). Ideally,
vocational education begins in elementary school. Students with multiple disabilities
should have classroom and school jobs to perform with their nondisabled peers. Com-
munity-based vocational training experiences can begin in the middle school years. By
the time the students reach high school age, transition planning focused on a specific
community-based job and independent living services programs should ensure that
the students are able to integrate into the community with as much independence as
possible.
In addition to generally enhancing the quality of a person's life, the ability to occupy one's leisure time in a socially valued and acceptable manner may have a significant impact on where a person with disabilities lives, success on the job, and the quality of relationships that develop with family, neighbors, colleagues, and others in the community (Ford et al., 1989). Students with multiple disabilities should be offered the same recreational opportunities and experiences as their nondisabled peers. A varied recreation and leisure repertoire offers many advantages to students, including increased social skills and friendships, independence, physical fitness, and self-esteem.

The process of developing a leisure education curriculum should begin by assessing the student's recreation needs and preferences. Assessments should accentuate abilities, potential, and preferences rather than skill deficits or functional limitations (Schleien, Green, & Heyne, 1993). Several useful assessments include the Home Leisure Activities Survey (Wuerch & Voeltz, 1982), Client Home Environment Checklist (Wehman & Schleien, 1981), and Student Interest Survey (Wuerch & Voeltz, 1982). Recreation and leisure skills should be identified and incorporated into the student's individualized education plan and taught in a variety of naturally occurring settings with peers.

Community living skills rarely are included in the general education curriculum. Students with multiple disabilities will benefit from having community living goals incorporated throughout their education, however. These skills include travel, community safety, grocery shopping, general shopping, eating out, and using community services. Each area requires the student to perform tasks outside of the school setting. Therefore, instruction and practice in the community environment is critical not only for acquiring skills but also for generalization to occur.

Health and sex education concepts can be more abstract than some other curricular areas, which can cause students with multiple disabilities to have difficulty acquiring knowledge in these important areas. Many general education curricula include health courses, and many school systems offer limited sex education courses. Students with multiple disabilities can benefit from this instruction when certain adaptations are made to the curriculum. These include (Muccigrosso & Scavarda, 1991) the following:

- simplified but age-appropriate reading materials or media that do not require reading, hearing, or vision, depending on the student's level of ability and combination of disabilities;
- a variety of concrete teaching strategies to reinforce the information presented (e.g., written materials, audiovisual materials, role playing, interactive games, etc.);
- learning strategies that closely approximate real life;
- opportunities for interaction with nondisabled peers and role models; and
- repeated opportunities for ongoing learning.

Many books, videotapes, pictorial stories, and other learning materials are specifically designed to provide sex education to students with disabilities. Health and sex education should be incorporated into the student's curriculum beginning in the elementary school.
Conclusion

Deaf and hard of hearing students with multiple disabilities present many challenges to educators. Curriculum planning can meet these challenges if it is person centered and compensatory and includes transdisciplinary teams and parents. Appropriate planning will result in curricula for these complex students that are individualized, person centered, functional, and—most important—effective.

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