Guidelines for Meeting the Communication Needs of Persons With Severe Disabilities

National Joint Committee for the Communicative Needs of Persons With Severe Disabilities

The following guidelines were developed by the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities and approved by the American Speech-Language-Hearing Association (ASHA) Legislative Council (LC 49–91) in November 1991. Joint Committee members who prepared this statement include the following: American Speech-Language-Hearing Association (ASHA) - James McLean (chair), Patricia Porter, and Diane Paul-Brown, ex officio; American Association on Mental Retardation - Mary Ann Romski; American Occupational Therapy Association - Barbara Chandler and Jane Rourk; American Physical Therapy Association - Claire McCarthy; Council for Exceptional Children, Division for Children With Communication Disorders, Lee Snyder-McLean; The Association for Persons with Severe Handicaps - Philippa Campbell, Joseph Reichle, and Kathleen Stremel; United States Society for Augmentative and Alternative Communication - Patricia Mirenda and David Yoder. Diane Eger, 1990–1992 vice president for professional affairs, was the ASHA monitoring vice president.

Introduction

History

In 1984, the Council of Language, Speech, and Hearing Consultants in State Education Agencies initiated efforts to develop national guidelines for developing and implementing educational programs to meet the needs of children and youth with severe communication disabilities. These efforts culminated in a national symposium, Children and Youth with Severe Handicaps: Effective Communication, that was jointly sponsored by the U.S. Department of Education's Office of Special Education Programs, (OSEP) and the Technical Assistance Development System (TADS) of Chapel Hill, North Carolina. This symposium was held in Washington, DC, August 19–21, 1985, and involved professionals from state and local education agencies and universities across the nation—most of whom were directly involved in developing or implementing communication intervention programs for children and youth with severe disabilities.

The product of this symposium (OSEP/TADS, 1985) consisted of 33 "consensus statements" that put forth assumptions and recommendations considered basic to the provision of adequate and appropriate services to meet the communication needs of children with severe disabilities. Some of these consensus statements reiterated philosophical and action statements already stated in Public Law 94–142; others added texture and specifics to actions specified in the law.

The symposium participants recognized the need for interdisciplinary efforts in this overall service domain. One of the symposium recommendations was that the American Speech-Language-Hearing Association (ASHA) and The Association for Persons with Severe Handicaps (TASH) "be asked to coordinate an interagency task force for the preparation and dissemination of statements setting forth the parameters of responsibility for the development and enhancement of functional communication behavior of severely handicapped children and youth" (OSEP/TADS, 1985, p. III.6). In 1986, then, ASHA and TASH organized the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities and issued invitations to other organizations to appoint representatives to the committee.

The National Joint Committee for the Communicative Needs of Persons With Severe Disabilities

The purpose of the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities is to promote research, demonstration, and educational efforts, including both inservice and preservice education, directed to helping persons with severe disabilities communicate effectively. The interdisciplinary composition of this committee reflects the pervasive importance of communication in all spheres of human functioning and across traditional disciplinary boundaries. The shared commitment to promoting effective communication by persons with severe disabilities thus provides a common ground on which the

Reference this material as follows:

National Joint Committee for the Communicative Needs of Persons With Severe Disabilities. (1992). Guidelines for Meeting the Communication Needs of Persons With Severe Disabilities. *Asha, 34* (March, Supp. 7), 1–8.

disciplines represented by the member organizations can unite in their efforts to improve the quality of life of such persons.

Guidelines

The joint committee took as its first task the amplification of the basic assumptions and recommendations reflected in the consensus statements issued by the OSEP/TADS 1985 symposium. The amplification took the form of guidelines for meeting the communication needs of persons with severe disabilities, including persons with severe to profound mental retardation, autism, and other disorders that result in severe socio-communicative and cognitive communicative impairments. Indeed, the need for such guidelines is underscored by the fact that there are approximately 2 million Americans who are unable to speak or who demonstrate severe communication impairments, but there is a shortage of trained personnel to serve them. Few personnel preparation programs address the communication needs of persons with severe disabilities.

The guidelines presented here have three aspects. First, they state clearly the philosophy that undergirds current efforts to provide intervention services appropriate to the communication needs of persons with severe disabilities. Second, they focus on current best practices in intervention for persons with severe disabilities. Third, they identify the substance and the professional competencies that are necessary for an interdisciplinary team to implement the philosophy and best practices.

Introduction: ASHA Members

ASHA members will realize that these guidelines are but one of several efforts by ASHA to keep its members informed about the provision of appropriate communication intervention to an expanding clinical constituency. For example, the ASHA Committee on Language (1991) recently published "Guidelines for Speech-Language Pathologists Serving Persons With Language, Socio-Communicative, and/or Cognitive-Communicative Impairments." In this article, the Committee on Language reviewed ASHA's recent history in the publication of position statements and guidelines that help to ensure that its members are philosophically and substantively prepared to serve the ever-growing population of persons with severe and pervasive communication impairments. As the article noted, previous ASHA statements and guidelines have included attention to persons without speech (ASHA Ad Hoc Committee on Communication Processes and Nonspeaking Persons, 1981), persons with mental retardation (ASHA Committee on Mental Retardation/Developmental Disabilities, 1982), persons with cognitive-communicative impairments (ASHA Committee on Language, Subcommittee on Cognition and Language, 1987), and persons in need of augmentative and alternative communication (AAC) systems (ASHA Committee on Augmentative Communication, 1989). In the most recent article, the ASHA Committee on Language (1991) reviewed the knowledge bases and skills required of speech-language pathologists serving persons with language, socio-communicative, and/or cognitive-communicative impairments in early childhood, at school-age, and as adults. The extensive list of knowledge bases and skills offered in these guidelines testifies to the profound nature of the communication impairments that speech-language pathologists are being called on to manage in cooperation with representatives of other educational and rehabilitative disciplines.

The guidelines offered here by the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities is an attempt to further inform the members of the constituent associations about current philosophies, intervention practices, and knowledge bases specific to the treatment of communicative impairments among persons with severe disabilities. These guidelines complement the guidelines issued by ASHA's Committee on Language in that they specify the status of current philosophy, intervention practices, and knowledge needs in the domain of persons with severe disabilities. Thus, for speech, language, and hearing professionals, these guidelines set the applied context in which the competencies recently described by the Committee on Language are operationalized.

Philosophy Statement

Recent legislation and litigation have required the provision of expanded educational and residential options for persons with severe disabilities. Underlying and supplementing these legal mandates are equally compelling moral and philosophical mandates for efforts to improve the overall quality of life of such persons. Any consideration of quality of life must take into account the degree to which individuals can effectively communicate with, and thus be a full participant in, the human community in which they live. Communication is, then, both a basic need and a basic right of all human beings.

What is Communication?

Communication is any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes.

Thus, all persons do communicate in some way; however, the effectiveness and efficiency of this communication vary with a number of individual and environmental factors. Further, some individuals with severe disabilities develop unconventional and socially inappropriate means to communicate, including aggressive acts toward themselves and others. It is the responsibility of all persons who interact with individuals with severe disabilities to recognize the communication acts produced by those individuals and to seek ways to promote the effectiveness of communication by and with those individuals.

A Communication Bill of Rights

All persons, regardless of the extent or severity of their disabilities, have a basic right to affect, through communication, the conditions of their own existence. Beyond this general right, a number of specific communication rights should be ensured in all daily interactions and interventions involving persons who have severe disabilities. These basic communication rights are as follows:

1. **The right to request desired objects, actions, events, and persons, and to express personal preferences, or feelings.**
2. **The right to be offered choices and alternatives.**
3. **The right to reject or refuse undesired objects, events, or actions, including the right to decline or reject all proffered choices.**

4. **The right to request, and be given, attention from and interaction with another person.**
5. **The right to request feedback or information about a state, an object, a person, or an event of interest.**
6. **The right to active treatment and intervention efforts to enable people with severe disabilities to communicate messages in whatever modes and as effectively and efficiently as their specific abilities will allow.**
7. **The right to have communicative acts acknowledged and responded to, even when the intent of these acts cannot be fulfilled by the responder.**
8. **The right to have access at all times to any needed augmentative and alternative communication devices and other assistive devices, and to have those devices in good working order.**
9. **The right to environmental contexts, interactions, and opportunities that expect and encourage persons with disabilities to participate as full communicative partners with other people, including peers.**
10. **The right to be informed about the people, things, and events in one's immediate environment.**
11. **The right to be communicated with in a manner that recognizes and acknowledges the inherent dignity of the person being addressed, including the right to be part of communication exchanges about individuals that are conducted in his or her presence.**
12. **The right to be communicated with in ways that are meaningful, understandable, and culturally and linguistically appropriate.**

Environmental Management

A commitment to the communication rights of persons with severe disabilities requires careful attention to and management of the physical and interpersonal environments in which such persons live, play, and work. Most basically, all such environments must allow, recognize, facilitate, enable, and respond to communication by individuals with disabilities. Further, these environments must reflect an expectation that all persons can and will communicate, regardless of the severity of their mental, physical, or sensory disabilities.

Communication Partners. To guarantee these communication rights for persons with severe disabilities requires the commitment and cooperation of all persons (employers, family members, friends, and staff members) with whom such persons interact daily. All of these individuals must be able to recognize and respond appropriately to the expressive communication produced by the person with severe disabilities with whom they interact, in whatever form that communication is expressed. These communication partners must also be able to provide communication input that is both perceptible and comprehensible to the individual with severe disabilities.

Collaborative Efforts. Further, it is evident that the ultimate achievement of such enabling communication environments will require the knowledge, skills, and experience of parents and of professionals from a variety of disciplines, including speech-language pathology, audiology, education, occupational therapy, physical therapy and other disciplines. It is equally evident that educational and therapeutic efforts directed toward promoting an individual's communicative effectiveness must be based upon and integrated into that individual's daily communication environments in a culturally sensitive manner and must involve all of that individual's communication partners.

Personnel Preparation. Finally, it is clear that the achievement of this level of interdisciplinary cooperation and collaboration, essential to the development of improved communication environments for persons with severe disabilities, will require major commitments of both preservice and ongoing inservice education resources. Current personnel preparation practices and policies are clearly inadequate to meet this need. At the most basic level, there is a need for more personnel in all disciplines who are educated and committed to deliver services to individuals who have severe disabilities. Beyond this, there is a need to enhance the substance of both preservice and inservice education for such personnel. Professionals in many disciplines today still receive no preparation at all in the area of communication, and others receive instruction that fails to reflect current knowledge and practice regarding the forms and functions of communication, particularly in nonlinguistic modes. It would seem that academic disciplines, educational institutions, and public agencies responsible for personnel policies must all share a commitment to address these needs.

Current Best Practices for Facilitating Communication Among Persons With Severe Disabilities

Current clinical practices for facilitating and enhancing communication among persons with severe disabilities reflect major revisions in the products and processes of the past. The substance of these revisions has been derived from empirical bases. However, the overall direction and the essence of these revisions reflect the mingling of two distinct philosophical bases.

The first philosophical base focuses on reversing the deleterious effects that severe disabling conditions have had on the relative place of people in the mainstream of society (Wolfensberger, 1972). The intervention implications of this philosophy lie in its insistence that the opportunity to have communicative effects on one's environment is a basic human right that should be enforced and enabled by the provision of active treatment for persons with severe disabilities. This philosophy further insists that environments for persons with severe disabilities be least restrictive (Brown, et al., 1979; Gilhool & Stutman, 1978). This means that persons with severe disabilities should have access to the full human environment and the freedoms of action and choice that are available to persons without disabilities.

The second philosophical base relates to a view of human communication as social behavior that enables people to have effects on other people in their environment (Austin, 1962; Searle, 1969). This function permits cooperative societies of humans to be structured and coordinated for the good of the members of those societies (DeLaguna, 1963). The intervention implications of this philosophical base lead away from a consideration of communicative acts only in terms of their linguistic structure in a standard speech mode. Instead, current perspectives recognize that communicative acts can be produced in nonlinguistic forms and that, at least in the initial stages of intervention, the

relative appropriateness of these acts should be judged in terms of their ability to attain needed social ends (McLean & Snyder-McLean, 1984; OSEP/TADS symposium, 1985; Schuler, Peck, Willord, & Theimer, 1989; Yoder & Villarruel, 1988). In the later stages of intervention, however, efforts might be focused on attaining communicative acts that reflect high levels of social conventionality and acceptability.

The intervention practices that arise from these two philosophical bases are clearly focused on efforts that seek to establish communicative repertoires that permit persons with severe disabilities to act on their social environments to achieve their rights to live, play, and work in ways that meet their basic needs and preferences (Brown, Nieptuski, & Hamre-Nieptuski, 1976). The development of intervention practices to attain such functional communicative repertoires has been well served by empirical data showing that (a) human communication and its effects on others begin long before a formal, spoken language system has been acquired (Bates, Camaioni, & Volterra, 1975); (b) communicative behavior and its effects are initially acquired in contexts that feature purposeful and responsive interactions between competent communicators and communication learners (Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979; Bruner, 1975); and (c) the behavioral forms of communication attain higher and higher levels of conventionality, symbolization, and effectiveness from the process of using and receiving reinforcement for communicative acts (Bates et al., 1979; Bloom & Lahey, 1978; Moerk, 1978). All of this suggests, then, that the specific nature of a desired functional communication system is best conceptualized in terms of its social uses (e.g., direct the actions of others, direct the attention of others). Thus, semantic functions (e.g., label of action or object) and syntactic forms (e.g., noun plus verb plus noun) (Keogh & Reichle, 1985; Peck & Schuler, 1987; Reichle, Piche-Cragoe, Sigafoos, & Doss, 1988; Wetherby & Prizant, 1989; Wetherby & Prutting, 1984) should be addressed in the context of functional communication.

Current best practices, then, are focused on the attainment of socially effective communicative repertoires. This goal, in turn, requires that targeted communicative behavior can be (a) acquired by persons with severe disabilities; (b) comprehended by significant people in the persons' environment; (c) matched up with communicative needs of community-based education, social, and work environments; and (d) taught in ways that are effective for both the initial acquisition and the generalization of communicative acts. This achievement of socially effective communication depends upon specific and comprehensive interdisciplinary practices. This means that the family and various professional disciplines must integrate information in assessment and goal setting and coordinate their delivery of intervention services (Calculator & Bedrosian, 1988). The specifics of these coordinated practices will be discussed briefly in the following sections of this paper.

Assessment Practices

Ideal assessment efforts begin with procedures that inventory and describe to what extent individuals are aware of their ability to act intentionally on people in their environments and to have effects on the behavior of those people. Assessment continues with procedures designed to identify the forms of an individual's extant communication repertoire, as well as the social functions (e.g., direct action, direct attention, protest, etc.) of that communicative behavior among individuals with severe disabilities (Higginbotham & Yoder, 1982; McLean, Snyder-McLean, Brady, & Etter, 1991; Schuler et al., 1989; Wetherby & Prutting, 1984).

The procedures and contexts needed to assess the communicative abilities and needs of persons with severe disabilities must be such that they ensure a comprehensive view of each individual's extant communicative abilities (Romski, Sevcik, Reumann, & Pate, 1988). This means that such descriptions must reflect repeated measures of the full range of an individual's performance across various areas of his or her educational, leisure, living, and working environments. Environmental assessments should be conducted in situations where individuals have a specific need or obligation to communicate. Thus, such descriptions should reflect all of an individual's communicative forms, including those expressed in nonspoken and nonsymbolic forms and those expressed in socially unacceptable ways, such as destructive and aggressive acts (Carr, 1977; Donnellan, Mirenda, Mesaros, & Fassbender, 1984). These descriptions should also report the respective functions that users apparently intend for these forms to accomplish. This assessment should also include measurement of hearing sensitivity.

Current best practices reflect an awareness that not only persons with severe disabilities, but also their environments, need to be assessed (Karan, et al., 1979; Peck, 1989; Yoder & Villarruel, 1988). Environmental assessments are designed to ascertain the degree to which different environments invite, accept, and respond to communicative acts by persons with severe disabilities. Such an assessment is necessary because many environments are highly directive and allow little input from persons with severe disabilities. The national trend to establish less restrictive and more normalized environments reflects the awareness that many environments tend to dehumanize persons with severe disabilities by not allowing them to express their desires, interests, and preferences through communicative acts.

At a minimum, then, an environmental assessment should (a) identify the partners for communication who are the most crucial in various environments; (b) measure the extent of the opportunities for communicative acts typically observed in various environmental contexts over time (e.g., education, leisure, living, and work settings, etc.); (c) compare the opportunities for communication among the different environmental contexts; (d) determine the proportion of communicative acts responded to appropriately in each environment; (e) determine the proportion of communicative acts responded to inappropriately in various environments; (f) identify the specific communicative forms and functions that might be useful or needed in various environments; and (g) identify the persons in those environments who appear to have relatively higher rates of permitting, accepting, and responding to communicative acts of an individual with severe disabilities. These highly responsive persons can be most useful in the initial stages of various intervention programs.

In summary, the forms and functions of communicative acts that are being used by individuals should be carefully observed before an intervention program is designed. The relative degree to which environments are sensitive and responsive to the needs of individuals to communicate should also be observed by assessing the frequency by which those environments invite, permit, accept, and respond appropriately to such acts. Given these data, professionals and significant others can then proceed to design program objectives both for individuals and the environ-

ments in which they learn, live, play, and work (Karan et al., 1979; OSEP/TADS symposium, 1985; Peck, 1989).

Goal-Setting Practices

Setting appropriate and attainable targets for intervention requires consideration of a complex system of variables. First, such practices are bidimensional in that they set goals both for individuals with disabilities and for the environmental contexts in which those individuals interact. Intervention is needed to alter environments that do not invite or respond to communicative acts. As will be discussed later, environments that encourage communication are needed as contexts for the initial learning of communicative forms and functions. Environmental programming also reflects the awareness that the generalization of newly acquired communicative forms and functions to everyday use necessitates that all of an individual's environments require, invite, and reward communicative acts.

Second, goal-setting practices must take into consideration the individual's entry communicative repertoire. For example, it is often more effective to target a new, higher level of communicative form as a means to express a social function that is already present in the individual's repertoire. Thus, an unconventional vocalization that the individual already uses could be augmented by teaching a corresponding iconic gesture (Halle, 1987; Hart, 1985; Siegel-Causey & Guess, 1989). It is the use of such known and meaningful communicative functions in social contexts that allows individuals to better comprehend the meaning and function of the new communicative form being taught.

Third, goal-setting practices may initially target interaction between persons with disabilities and various communication partners as a means of strengthening interaction and the communicative use of any already existing system, such as natural gestures. In later stages of intervention, these same partners and interactive contexts will be used as contexts for procedures designed to enable the acquisition and use of higher, symbolic communication forms. Even the symbolic forms sought in later stages of intervention might not be speech but, rather, might focus on augmentative and alternative communication (AAC), including various unaided (e.g., manual sign) and aided symbol sets and systems. Aided AAC systems and devices (e.g., communication boards) include those that can be accessed in ways ranging from simple touchplates to computer keyboards (Blackstone, 1986; Musselwhite & St. Louis, 1989). The selection of any one or combination of these options depends on the cognitive and physical status of the individual, as well as the practicality and functionality of different modes in his or her daily social environments (Beukelman, Yorkston, & Dowden, 1985; Musselwhite & St. Louis, 1989; Reichle, York, & Sigafoos, 1991).

Intervention Practices and Procedures

The consistent use of meaningful interactive contexts is the hallmark of current intervention practices (Calculator & Bedrosian, 1988; Halle, 1988; MacDonald, 1985; Musselwhite & St. Louis, 1989; Romski, Sevcik, & Pate, 1988; Siegel-Causey & Guess, 1989; Warren & Rogers-Warren, 1985; Yoder & Villarruel, 1988). Such contexts stress meaningful use of communicative signals and provide the occasions for reinforcement of these social acts. These practices reflect the renewed awareness that teaching communication does not mean teaching just communicative forms. Rather, communication intervention means teaching communicative forms and functions—with the functions discoverable only in the interactive, socialized contexts in which these functions occur and are responded to by other people.

Interventions should take place in real-world, interactional contexts. The use of such teaching contexts contrasts sharply with past practices in which communicative forms were trained in isolated environments. The current use of interactive contexts involving other people as responders to communicative acts features learning opportunities dispersed over a wide range of meaningful interactions and contexts, rather than trials presented in a training context that is isolated from an individual's daily environment. Research data suggest that the use of truly interactive contexts, in which communicative acts actually function to affect the behavior of other people in purposeful interactions, both increases the rate of communicative initiations and allows for effective learning of communicative forms and functions (Halle, 1987; Hart & Risley, 1980). Teaching communication in these more natural contexts appears more likely to foster the maintenance and generalization of newly learned communicative behavior to all similar contexts in the individual's natural environment.

Service Delivery

When considered together, all of the assessment and intervention practices discussed above have important implications for service delivery practices. Communication intervention must involve significant people and significant contexts across multiple environments. The delivery of intervention services of this scope requires the collaboration and competence of families and of professionals and paraprofessionals from many disciplines. The ideal interdisciplinary delivery model requires that participants share a common perspective on communicative behavior. This shared perspective should include an understanding that communicative behaviors are social in that they have effects on other people, and that such behavior can be nonspoken and nonsymbolic in its form (OSEP/TADS Symposium, 1985).

An interdisciplinary model also reflects an awareness that interactive contexts that are salient and productive for persons with severe disabilities involve family members and professionals and paraprofessionals from many disciplines. A master intervention program is best formulated and implemented by an interdisciplinary team and involves all of the contexts controlled and managed by individual members of that team. Depending on an individual's age and disability, the exact composition of the interdisciplinary team will vary. However, the team must include a speech-language pathologist and family member or guardian. Communication teaching takes place within the context of all life activities.

Clearly, each member of the interdisciplinary team, including family members, must be recognized as having specific and crucial contributions to make to the design of the communication intervention program. The specific knowledge and competencies that are required within an interdisciplinary team that is focused on the communicative needs of persons with severe disabilities are described below. As the wide range of knowledge and competencies needed by these teams is carefully examined, the need for interdisciplinary input should become abundantly clear.

Summary

In summary, the current best practices in the facilitation and enhancement of communication among persons with

severe disabilities reflect six major tenets: (a) communication is social behavior; (b) effective communicative acts can be produced in a variety of modes; (c) appropriate communicative functions are those that are useful in enabling individuals with disabilities to participate productively in interactions with other people; (d) effective intervention must also include efforts to modify the physical and social elements of environments in ways that ensure that these environments will invite, accept, and respond to the communicative acts of persons with severe disabilities; (e) effective intervention must fully utilize the naturally occurring interactive contexts (e.g., educational, living, leisure, and work) that are experienced by persons with severe disabilities; and (f) service delivery must involve family members or guardians and professional and paraprofessional personnel.

These six tenets have resulted in assessment, intervention, and service delivery models that offer maximum responsiveness to the need to establish communicative repertoires that will allow persons with severe disabilities to function effectively in least restrictive environments—in productive interactions with others.

Knowledge and Skills Needed by the Interdisciplinary Team in the Facilitation and Enhancement of the Communication of Persons With Severe Disabilities

The intervention goal for persons with severe disabilities is the establishment of functional communication, which includes the abilities to

1. Communicate for a variety of purposes relevant to the individuals' life experiences.
2. Use a variety of communication modes to accomplish these purposes effectively.
3. Initiate, maintain, and terminate social interactions as a critical dimension of communication.

The most effective means to establish functional communication is through the coordinated efforts of all team members engaged in the development and implementation of education and treatment programs for persons with severe disabilities. Traditionally, this would involve the speech-language pathologist, audiologist, special educator, occupational therapist, and physical therapist working in concert with individuals and family members. The skills of professionals from other disciplines also may be required.

Each team member will bring unique knowledge, experience, and skills to the process of assessment and management of intervention programs. There may be variations in the interdisciplinary resources and functions in different service delivery settings. The knowledge, skills, and competencies needed within the interdisciplinary team, if optimal attention is to be given to the communicative needs of persons with a severe disability, are listed below:

1. Knowledge of the interactive nature of the processes of cognitive, communicative, motor, and social development.
2. Knowledge about individuals with disabilities of different ages and functioning levels.
3. Knowledge about the nature of the impairment resulting in communicative disability and factors that promote prevention.
4. Knowledge and experience with various unaided and aided modes of communication (including body postures, gaze, gestures, and speech, as well as electronic and nonelectronic devices).
5. Knowledge of personal amplification or other assistive devices that may be used with persons with severe disabilities who also exhibit a hearing loss.
6. Knowledge of medications and their effects on the behaviors of individuals, and especially on communication.
7. Knowledge of a variety of complications that are evidenced by individuals with severe disabilities in addition to the communication disability (e.g., feeding problems, seizures).
8. Knowledge of the relationship between socially unacceptable behaviors and communication.
9. Expertise in ongoing assessment and evaluation (through formal and informal standardized and nonstandardized procedures) of type, nature, and severity of the communicative impairment evidenced by individuals with severe disabilities. The ability to plan and implement a comprehensive assessment that leads directly to intervention goals and objectives.
10. Knowledge and ability to plan assessment and intervention that integrates the domains of cognitive, motor, sensory, and social functioning.
11. Ability to describe and document functional communication abilities and needs within the specific contexts of educational settings, living environments, recreational and vocational environments, and the community at large.
12. Knowledge and ability required to plan, implement, monitor, and modify as needed an interdisciplinary intervention program that will allow individuals with severe disabilities to develop functional communication skills, in spoken or other modes, that are appropriate to the individual's educational, living, recreational, and vocational environments.
13. Expertise in the determination of which speech and specific augmentative and alternative communication (AAC) devices and strategies to use to maximize functional communication.
14. Expertise with mobility aids.
15. Expertise in positioning to maximize functional communication in all environments.
16. Expertise with management of activities of daily living and incorporation of communication into each of these.
17. Skill and experience in determination of best access to electronic and nonelectronic devices.
18. Skill and experience in assessment for and implementation of gestural communication.
19. Expertise in the integration of communication, including AAC devices, in community, educational, living, recreational, and vocational environments.
20. Knowledge to develop an appropriate vocational curriculum.
21. Knowledge to select and implement a variety of service delivery models.

22. Ability to educate colleagues, administrators, parents, primary caregivers, and the community about individuals with severe disabilities and their communication needs and strengths, including the ability to conduct staff development, establish home programs, and use paraprofessionals.
23. Knowledge and ability to incorporate current research findings into communication programming.
24. Ability to understand family or caregiver needs and strengths and to interact in a culturally sensitive manner.

The level of interpersonal, interdisciplinary, and interagency cooperation required to create such facilitating and enabling communication environments and to meet personnel needs may seem, at first, to present overwhelming logistical obstacles. However, without such a commitment, there can be no true quality of life for persons with severe disabilities. This is a challenge worthy of our best efforts.

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