

(Approved by the Board of Directors of the Educational Audiology Association September 2009)

School-based Audiology Services

Classrooms are primarily auditory-verbal environments where listening is the predominant modality for learning. The Educational Audiology Association (EAA) asserts that educational audiologists are the professionals uniquely qualified to ensure that all students have adequate access to auditory information in their educational settings. This overview of school-based audiology services introduces a series of accompanying statements that describe some of the most pertinent areas of educational audiology practice in the schools. These include *Classroom Acoustics, Hearing Assistance Technology, Hearing Screening, Noise and Hearing Loss Prevention, Audiology Services under 504, Auditory (Re)Habilitation, Educational Audiology Services Under IDEA, Educational Clinical Partnership, and Roles in EHDI and Hearing Surveillance.*

The Population Served by Educational Audiologists

Students with any degree or type of hearing impairment, including auditory neuropathy, unilateral or fluctuating hearing loss, or an auditory processing disorder, require the expertise of an educational audiologist. In addition, students with learning disabilities, reading/literacy difficulties, attention problems, and those struggling with English as a second language benefit from the educational audiologist's knowledge of how listening and learning is impacted by noise and classroom acoustics. They may support these students whether they receive special education and related services under the Individuals with Disabilities Education Act (IDEA, 2006) or services under Section 504 of the Rehabilitation Act (1973). Educational audiologists interact directly with parents, as well as teachers, nurses, and other related service personnel, as part of the educational team.

Scope of Practice

The education and training of audiologists includes a strong scientific, diagnostic, and rehabilitative focus. Audiologists are bound by professional ethics and licensing requirements to ensure that the best interests of those they serve are met. Educational audiologists specialize in the effects of hearing, listening, and auditory processing deficits on the ability of children and youth to access communication and learning. These students may be served under IDEA or 504. While the work of educational audiologists may vary from one educational setting to another, they must address the practice areas identified within IDEA for audiologists: screening, assessment, amplification, habilitation, counseling, and prevention (34CFR300.34(c)(1)); assistive technology and assistive technology services (34CFR300.5-6 & C); and routine checking of amplification devices and external components of surgically implanted medical devices worn by children in school (34CFR300.113). Based on professional scopes of practice in audiology (AAA, 2004; ASHA, 2004), speech-language pathology (ASHA, 2007), and deaf education (CED), the audiologist is the only professional that is qualified to fit and verify hearing aids and personal hearing assistance technology.

Through collaborative partnerships, educational and private (non-school-based) audiologists work together to promote the best hearing technology and support services for each child or youth they serve. Hearing loss prevention programs, hearing screening programs and classroom acoustics are other areas within the purview of the educational audiologist. Providing consultation to the school nurse on screening programs, the speech language pathologist for communication strategies, or a classroom teacher regarding acquisition of the phonemic information critical to literacy -- are all part of the scope of practice of the educational audiologist.

Typical Roles of Educational Audiologists

The expertise of educational audiologists typically includes:

- Being well-informed on federal and state (provincial) legislation, as well as local regulations and policies related to audiology services for children ages birth to 21.
- Collecting and interpreting objective and subjective data to evaluate and monitor the combined effects of hearing, listening, and or auditory deficits and classroom acoustics.
- Understanding and describing the effects that hearing loss and auditory processing deficits can have on communication, academic performance and psycho-social development and making recommendations to address these problems.

- Assessing students' functional ability to access auditory information in the classroom to link diagnostic information, educational accommodations, and program planning.
- Guiding the provision and management of accommodations and essential hearing assistance technology to improve the student's access to auditory information.
- Educating students about their hearing impairments.
- Understanding current hearing aid and cochlear implant technology and how they best interface with hearing assistance technologies.
- Selecting and fitting amplification for classroom and other school related use.
- Ensuring that amplification is working properly and effectively by delivering training and support to students and school personnel on its use, its limitations, and specific troubleshooting techniques as well as performing verification and validation measures using standard assessment protocols.
- Supporting listening skill development, auditory training and speechreading development through consultation, collaboration, and/or direct remediation to enhance communication skills for all students with hearing loss, students using hearing aids/cochlear implants, BAHAs, or students with a diagnosed auditory processing disorder.
- Educating students and school personnel about the prevention of hearing loss.
- Promoting appropriate classroom acoustics, acoustic modifications, and accommodations to address communication access in poor acoustic environments.

Contributions to the Multidisciplinary Team

The efforts of educational audiologists to improve access to auditory information in the educational environment address a fundamental need for all students to be able to hear and understand in the classroom. This expertise is unique from that of other professionals and related service providers whose typical focus is from an academic, social-emotional and/or speech language perspective. Together, the educational audiologist and other professionals comprise a team prepared to effectively address the needs of students with hearing, listening, and auditory processing difficulties.

The educational audiologist is a school's best resource for recommending and maintaining the appropriate assistive listening technologies for the student and the classroom team. Educational audiologists connect diagnostic audiological information to the day-to-day impact of hearing impairment in the classroom. With audiologists as active members of the educational team, students can be increasingly enabled to meet general education requirements and attain educational outcomes that match their hearing peers.

References:

American Academy of Audiology (2004). Audiology: Scope of Practice. www.audiology.org

American Speech Language Hearing Association (2004). Scope of Practice in Audiology. ASHA Supplement 24.

American Speech-Language-Hearing Association. (2007). *Scope of Practice in Speech-Language Pathology* [Scope of Practice]. Available from www.asha.org/policy.

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School-based Audiology Advocacy Series Classroom Acoustics

(Approved by the Board of Directors of the Educational Audiology Association September 2009)

Classroom Acoustics

Environmental and design factors in and around the classroom contribute to the ability of all students to hear and clearly understand speech. How well students hear impacts the reception and retention of information. Depending upon the classroom's walls, floor and ceiling surfaces, and size and configuration, the potential for loss of information as it is transmitted from the teacher or speaker to the student can be extremely high. This problem is most likely to occur as the distance increases between the teacher and student, when noise levels in the room are high and when the room is highly reverberant. Background noise refers to any undesired auditory stimuli that interfere with what a student needs to hear and understand. Noise sources can be in the classroom, in the school building and outside the school. Reverberation refers to the persistence or prolongation of sound within an enclosed space as sound waves reflect off of hard surfaces. Excessive reverberation times frequently cause distortion of speech sounds. Staff and classroom personnel must be provided with information about the negative effects of poor classroom acoustics on learning, strategies to improve classroom acoustics, and accommodations to improve communication access.

The educational audiologist is typically the most knowledgeable member of the school personnel team for assessing classroom acoustics and determining appropriate classroom modifications that will best address students' listening needs. Educational Audiologists should be actively involved in assessing background noise levels, reverberation time and the impact of these factors on a student's ability to access auditory information in the classroom. It is also important to know each student's individual speech-to-noise requirements so that appropriate accommodations can be determined. Educational Audiologists have an integral role in assuring that all students can hear and understand their teachers and classmates.

Resource:

American National Standards Institute (2002). *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools* [ANSI S12.60-2002]. New York: Acoustical Society of American.

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(Approved by the Board of Directors of the Educational Audiology Association September 2009)

Hearing Assistance Technology

Hearing assistance technology (HAT) continues to evolve and improve hearing accessibility for individuals with hearing and listening problems. As required by IDEA, audiologists must “determine the child’s need for individual amplification, including selecting, fitting, and dispensing of appropriate listening and vibrotactile devices, and evaluating the effectiveness of those devices” [34CFR300.34(c)(1)(vi)]. Therefore, to assure appropriate services, educational audiologists must have an active role in candidacy determination, device selection, fitting, validation, and management of appropriate hearing instruments for children/youth. Determination of individual signal-to-noise ratio requirements is necessary to select the appropriate hearing assistance technology option. Personal FM systems, whether fit directly or coupled to the child’s hearing aid or cochlear implant, require verification procedures to establish that appropriate gain and output are being delivered to the student (Eiten & Lewis, 2008). Focused and wide area sound field distribution systems also require consideration of individual listening needs and acoustical characteristics of the classroom (Eiten & Lewis, 2008, Flexer, 2004, ANSI, 2002). Validation procedures are required by IDEA [34CFR300.6(a)] and must be administered with the student to confirm that the recommended instruments are providing the expected benefit in the classroom and other settings where they are used (Eiten & Lewis, 2008). The student, as well as school staff and classroom personnel, must receive orientation and training on function, appropriate use, and limitations of HAT instruments to insure that maximum benefit from the technology is available to the child/youth (AAA, 2007). IDEA further requires routine checking of hearing aids and external components of surgically implanted medical devices (34CFR300.113). Consequently, educational audiologists must establish and manage monitoring plans for students wearing hearing aids, cochlear implants, and Bone Anchored Hearing Aids (BAHA) as well as hearing assistance technology.

Educational audiologists are typically the most knowledgeable school personnel to measure classroom acoustics and to determine appropriate classroom sound field distribution system options. Accordingly, they must be actively involved in the recommendation and subsequent installation process of appropriate sound field distribution systems in the classroom. Assessing excessive classroom noise levels and reverberation times may result in recommending acoustic modifications and may be necessary prior to installation of sound distribution systems for the control of background noise (ASHA, 2005). The determination of individual student signal-to-noise ratio needs is also necessary for the successful use of sound field distribution systems (Smaldino & Crandell 2000). As with personal FM systems, the educational audiologist must insure that verification of appropriate gain and output, as well as validation of benefit, has been completed with classroom systems.

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- American Academy of Audiology (2007). AAA Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technologies for Children and Youth Birth-21 Years. www.audiology.org
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Hearing Screening

In today's classrooms, typically 60% of instructional activity involves listening (ANSI S12.60-2002). The ability to hear is not only critical for instruction, but it also provides the foundation for the development of spoken language, and subsequently literacy, particularly the acquisition of phonemic skills. Consequently, children who have hearing loss need to be identified as early as possible so that appropriate measures to provide access to communication, language and learning can be implemented.

The Joint Committee on Infant Hearing (2007) recommends that the screening of all infants occur at birth but no later than one month of age, that the diagnosis of hearing loss be confirmed by three months of age, and that infants are enrolled in appropriate intervention programs by six months of age. Due to late onset and the progressive nature of hearing loss, hearing screening measures must continue routinely throughout toddler, preschool and school age years.

There are many factors that can cause a hearing loss, whether fluctuating or permanent, at any time during a child's life (Northern and Downs, 2002). During the early years there is a higher incidence of middle ear problems. As children become older their exposure to noise increases placing them at risk for noise induced hearing loss. Additionally, trauma, disease or other causes of later onset of hearing loss can occur at any time. Most states have guidelines on how, who and when hearing of school age children will be screened (Meinke and Dice, 2007). However, procedures, referral criteria, and follow-up procedures vary by state. Most often the responsibility for screening falls on the school nursing staff as a health procedure. Often screening is conducted by volunteers and training is brief, and supervision is limited. Adherence to test protocols can vary significantly.

Classroom teachers rely on the screening information to ensure that children hear adequately to access instruction and progress academically. Thus, when children do not develop age appropriate communication skills, do not acquire the basic phonemic skills to develop literacy, or do not make adequate general academic progress, there may be an assumption that the delays are due to reasons other than hearing ability. Therefore it is critical that the hearing screening process be performed in an efficacious manner. Instrumentation must be calibrated; training must be thorough; protocols must be developed appropriately for target age groups and followed carefully, and there must be a good understanding of the criteria for a "referral" to effectively provide follow-up.

Audiologists have unique clinical and academic backgrounds to support school personnel, provide expertise and training, and to manage hearing screening programs. Efficient, cost effective and successful programs managed by educational audiologists can ensure a screening process that correctly identifies all children at with auditory disorders and provided appropriate referral, intervention and management oversight.

References:

- American National Standards Institute (2002). *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools [ANSI S12.60-2002]*. New York: Acoustical Society of American.
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(Approved by the Board of Directors of the Educational Audiology Association September 2009)

Noise and Hearing Loss Prevention Education

More, and younger, children have access to music and video systems equipped with the latest technology. Whether listening through speakers or earbuds, or having contact with noise in their environment, children and youth are exposed to noise that is pervasive throughout their educational and recreational day. The 3rd National Health and Nutrition Examination Survey (Niskar et al., 2000) found 5.2 million, or 12.5%, 6 -19 year old children in the United States had hearing loss directly related to noise exposure. In 1992 it was reported that over the previous 10 years the percentage of 2nd graders with hearing loss had increased 2.8 times and hearing loss in 8th graders had increased over 4 times (Montgomery and Fujikawa, 1992). Research has documented that children with minimal hearing loss tend to have more learning difficulties than children who have normal hearing (Bess et al., 1998, Centers for Disease Control). Rabinowitz et.al., (2006) reported that 20% of young adults, 17 to 25 years old, enter the industrial workforce with evidence of early hearing loss consistent with noise exposure.

Lack of public awareness and effective dissemination of information, materials and curriculum appear to be one of the greatest reasons that our children have not embraced good habits regarding noise exposures and its harmful effects (Centers for Disease Control, Folmer, 2002). Programs such as Dangerous Decibels (www.dangerousdecibels.org), Listen to Your Buds (www.listentoyourbuds.org) and Crank It Down (www.hearingconservation.org) provide good basic information and suggested activities for use with students.

Based on training and scope of practice (American Academy of Audiology, 2004, American Speech, Language Hearing Association, 2004), as well as the Individuals with Disabilities Education Act (IDEA) (34CFR300.34(c) (1)(iv), audiologists have primary responsibility to provide noise education and hearing loss prevention education. Designing a hearing loss prevention program requires consideration of several components:

1. Determining the contents and making the curriculum relevant for the various age groups.
2. Identifying existing courses where noise education may be infused.
3. Identifying who will teach the various modules and the role of the audiologist in the management and delivery of the program. The audiologist is best suited to assist the general education teacher in integrating the critical information into their own health, science or vocational education courses.

It is imperative that students today develop healthy hearing habits that will serve them as adults. Noise education is vital to protect our youth's hearing and can best be planned and coordinated by audiologists working in the schools as part of the education team.

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- Bess, Fred, Dodd-Murphy, Jeanne, & Parker, Robert A. (1998). Children with Minimal Sensorineural Hearing Loss: Prevalence, Educational Performance and Functional Status. *Ear and Hearing*, 19, 339-354.
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(Approved by the Board of Directors of the Educational Audiology Association September 2009)

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(Approved by the Board of Directors of the Educational Audiology Association July 2010)

Audiology Services Under 504

Audiologists diagnose children with a full range of hearing disorders and auditory processing deficits. Due to early identification and effective intervention services many of these children may not be eligible for special education services under the Individuals with Disabilities Education Act (IDEA) because they demonstrate age-appropriate developmental and educational milestones. These students do require, however, the support of an educational audiologist to identify and manage accommodations that are necessary for them to continue to make these benchmarks. Often these accommodations and supports are provided under a 504 Plan.

Some students with hearing disorders, especially those with mild, unilateral and high frequency hearing losses, and less severe auditory processing deficits, appear to be making adequate progress. They may, however, exhibit subtle behavior or listening problems that do not appear to be directly impacting academic achievement. Common behaviors include misunderstanding instructions, being distracted in noisy situations, and having difficulty processing multiple step directions. The educational audiologist is equipped to analyze the relationship between these auditory behaviors and learning and to address problems through teacher consultations, especially for students who are not eligible for special education services under IDEA. Often, an explanation of the problem and discussion with the classroom teacher may be all that is necessary so that a student's actions are not misunderstood. Through periodic monitoring, the educational audiologist is able to support communication access accommodations, including the use of assistive technology, as they pertain to the student's auditory deficits. Section 504 supports students to be successful in general education classes or special classrooms.

Section 504 of the Rehabilitation Act is a federal civil rights law designed to protect the rights of individuals with disabilities in programs and activities that receive Federal financial assistance from the U.S. Department of Education. Any qualified individual with a disability has the right to a reasonable accommodation, such as services or aids, to help that individual participate in the school program. Like IDEA, it requires a school district to provide a free and appropriate public education (FAPE) including individually designed instruction to each qualified student with a disability who is in the school district's jurisdiction, regardless of the nature or severity of the disability. "Appropriate" under 504 means an education that is comparable to the education provided to nondisabled students while under IDEA "appropriate" education means an IEP designed to meet the child's unique needs that results in educational benefit. Areas where 504 further differs from IDEA includes no categorical eligibility, no requirement for prior written notice or consent for placement, and no federal or state funding for the services that are provided. All funding for 504 services comes from each school or school district's own financial resources.

Each Federal agency has its own set of 504 regulations that apply to its programs. In education, enforcement for 504 is provided by the U.S. Office for Civil Rights (OCR) within the U.S. Department of Education. OCR also enforces the Title II of the Americans with Disabilities Act (ADA). The Office of Special Education and Rehabilitative Services (OSERS), which is also part of the U.S. Department of Education, administers IDEA, a grant entitlement program which provides limited funding to states for special education services.

In order to qualify for a 504 plan, a student must be determined to have a physical or mental impairment that substantially limits one or more major life activities, has a record of such an impairment, or is regarded as having such an impairment (except that the impairment cannot be "transitory and minor" defined as having an expected duration of 6 months or less). Further, 504 determinations must be made without consideration for "mitigating measures". These include hearing aids and assistive technology, medications, and other learned behavioral adaptations such as tutoring. Referenced under 34 CFR Part 104.3 (j) as a Handicapped person, (ii) major life activities includes functions such as caring for one's self, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning reading, concentrating, thinking, communicating, and working.

References:

Individuals with Disabilities Education Act (IDEA) (2004), 20 U.S.C. §§1400 et seq. Regulations: 34 CFR Part 300.

Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. §794. Regulations: 34 CFR Part 104 (U.S. Department of Education).

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School-based Audiology Advocacy Series Auditory (Re)Habilitation

(Approved by the Board of Directors of the Educational Audiology Association July 2010)

Auditory (Re)Habilitation

Auditory (re)habilitation uses various approaches to assist individuals with hearing, listening and auditory processing problems to maximize their auditory capabilities for communication and learning. For children, auditory (re)habilitation is a vital step in the process of gaining spoken language skills. According to IDEA, the educational audiologist is required to address (re)habilitation of children with auditory problems by “providing habilitation activities, such as language habilitation, auditory training, speech reading, (lipreading), hearing evaluation, and speech conservation” (34CFR 300.34(c)(1)(iii).

The role of the educational audiologist is influenced by many issues and therefore varies by school district, agency, setting, program characteristics, expertise, and/or state regulations. The educational audiologist’s role in providing auditory (re)habilitation services likewise varies. Frequently auditory (re)habilitation responsibilities are shared with a speech-language pathologist and/or deaf educator/consultant. Because scope of practice definitions state that an audiologist must fit hearing instruments and hearing assistive technology, these areas of (re)habilitative services are most common for educational audiologists. Educational audiologists also typically instruct students, parents and school staff in the function, use, and care, as well as the limitations, of these instruments. The educational audiologist will develop IEP goals related to listening skill development, use of amplification, and counseling regarding self-advocacy. Services may be delivered directly to the student or in consultation with other school staff. Regardless of delivery method, progress must be frequently monitored to assess performance and make adjustments to programs and services. The educational audiologist is an indispensable member of the IEP team as well as a resource on hearing accessibility for all students in the schools.

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Educational Audiology Services Under IDEA: Pertinent Regulations¹

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PART B RELATED SERVICES 34CFR300.34(b)

Exception; services that apply to children with surgically implanted devices, including cochlear implants.

- (1) Related services do not include a medical device that is surgically implanted, the optimization of that device's functioning (e.g., mapping), maintenance of that device, or the replacement of that device.
- (2) Nothing in paragraph (b)(1) of this section—
 - (i) Limits the right of a child with a surgically implanted device (e.g., cochlear implant) to receive related services (as listed in paragraph (a) of this section) that are determined by the IEP Team to be necessary for the child to receive FAPE.
 - (ii) Limits the responsibility of a public agency to appropriately monitor and maintain medical devices that are needed to maintain the health and safety of the child, including breathing, nutrition, or operation of other bodily functions, while the child is transported to and from school or is at school; or
 - (iii) Prevents the routine checking of an external component of a surgically-implanted device to make sure it is functioning properly, as required in §300.113(b).

PART B - DEFINITION OF AUDIOLOGY 34CFR300.34(c)(1)

Audiology includes-

- (i) Identification of children with hearing loss;
- (ii) Determination of the range, nature, and degree of hearing loss, including referral for medical or other professional attention for the habilitation of hearing;
- (iii) Provision of habilitation activities, such as language habilitation, auditory training, speech reading, (lipreading), hearing evaluation, and speech conservation;
- (iv) Creation and administration of programs for prevention of hearing loss;
- (v) Counseling and guidance of children, parents, and teachers regarding hearing loss; and
- (vi) Determination of children's needs for group and individual amplification, selecting and fitting an appropriate aid, and evaluating the effectiveness of amplification.

PART C DEFINITION OF AUDIOLOGY 34CFR303.13(b)(2) (Proposed 5-9-07) (highlighted words are in proposed regs.)

Audiology services includes-

- (i) Identification of children with auditory impairments, using at risk criteria and appropriate audiological screening techniques;
- (ii) Determination of the range, nature, and degree of hearing loss and communication functions, by use of audiologic evaluation procedures;
- (iii) Referral for medical and other services necessary for the habilitation or rehabilitation of an infant or toddler with a disability who has an auditory impairment;
- (iv) Provision of auditory training, aural rehabilitation, speech reading and listening devices, orientation and training, and other services;
- (v) Provision of services for the prevention of hearing loss; and
- (vi) Determination of the child's need for individual amplification, including selecting, fitting, and dispensing of appropriate listening and vibrotactile devices, and evaluating the effectiveness of those devices.

PART B INTERPRETING SERVICES 34CFR300.34(c)(4) Interpreting services includes-

- (i) The following when used with respect to children who are deaf or hard of hearing: oral transliteration services, cued language transliteration services, and sign language transliteration and interpreting services, and transcription services, such as communication access real-time translation (CART), C-Print, and TypeWell; and
- (ii) Special interpreting services for children who are deaf-blind.

ASSISTIVE TECHNOLOGY 300.105(a)(2)

On a case-by-case basis, the use of school-purchased assistive technology devices in a child's home or in other settings is required if the child's IEP Team determines that the child needs access to those in order to receive FAPE.

PART B ROUTINE CHECKING OF HEARING AIDS AND EXTERNAL COMPONENTS OF SURGICALLY IMPLANTED MEDICAL DEVICES 34CFR300.113

¹ From CD Johnson. In CD Johnson & J Seaton, Educational Audiology Handbook, 2nd Edition, Delmar Cengage Learning, 2011.

- (a) Hearing aids. Each public agency must ensure that hearing aids worn in school by children with hearing impairments, including deafness, are functioning properly.
- (b) External components of surgically implanted medical devices.
 - (1) Subject to paragraph (b)(2) of this section, each public agency must ensure that the external components of surgically implanted medical devices are functioning properly.
 - (2) For a child with a surgically implanted medical device who is receiving special education and related services under this part, a public agency is not responsible for the post-surgical maintenance, programming, or replacement of the medical device that has been surgically implanted (or of an external component of the surgically implanted medical device).
- (c) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
- (d) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;
- (e) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;
- (f) Training or technical assistance for a child with a disability or, if appropriate, that child's family; and
- (g) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of children with disabilities.

PART B DEVELOPMENT, REVIEW, AND REVISION OF IEP, Consideration of special factors 34CFR300.324(2)(iv)

The IEP Team must-

- (iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode;

ASSISTIVE TECHNOLOGY PART B 34CFR300.5-.6 & PART C 34CFR303.13(b)(1)(i)

Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities. The term does not include a medical device that is surgically implanted, or the replacement of such device.

Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term includes-

- (a) The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;

PART B DEFINITIONS 34CFR300.8(b)

- [2] Deaf-blindness means concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs solely for children with deafness or children with blindness.
- [3] Deafness means a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification that adversely affects a child's educational performance.
- [5] Hearing impairment means an impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness in this section.

¹ From CD Johnson. In CD Johnson & J Seaton, Educational Audiology Handbook, 2nd Edition, Delmar Cengage Learning, 2011.



School-based Audiology Advocacy Series The Educational and Clinical Audiology Partnership

(Approved by the Board of Directors of the Educational Audiology Association July 2010)

The Educational and Clinical Audiology Partnership

Educational and clinical audiologists share in the responsibility of meeting the auditory needs of the children they serve. Effective communication between both audiologists requires a partnership that is fostered by trust and open consistent communication. The partnership is necessary so that appropriate accommodations are effectively implemented to manage the child's communication needs. The partnership also demonstrates to parents that we share the same goals for their children. We work as a team to promote appropriate management and to resolve problems without placing parents in the role of messenger between the clinic and the school.

School-based and clinical assessments often have complimentary purposes that result in a comprehensive profile of a child's auditory performance. For example, the clinical evaluation may primarily be focused on the diagnosis of the hearing disorder for the purpose of medical/surgical intervention and potential hearing aid candidacy. The educational audiologist may expand this assessment to evaluate listening performance in the classroom to address accommodations. Additional components of the educational audiology assessment may include measurements of classroom acoustics, listening in noise and other adverse conditions, classroom communication participation, and the use of hearing assistance technology

Technology, such as cochlear implants, hearing aids, FM systems and loop technology are frequently utilized at school, at home and in the community. Communication is required to ensure appropriate settings and utilization of this technology across these settings. For example, hearing aids with the latest technology must be programmed to receive FM input to be most effective in noisy classroom situations. Conversely, if a child continues to experience difficulties hearing in the classroom, even with the addition of an FM system, the clinical audiologist should be made aware so that CI mixing ratios or hearing aid programming may be reevaluated. As technology and programming options advance, so must our understanding of the range of communication conditions and connectivity options students encounter each day.

The partnership is supported by maintaining current release of information so that all assessment data are shared and appointment proceedings are documented. Forms that communicate specific information about amplification devices and their settings, clinical and functional performance, and any other pertinent data facilitate the flow of information. Ultimately, the combined special expertise of both educational and clinical audiologists results in the best care for the children concerned.

This document is part of the School-Based Audiology Advocacy Series. Please see additional statements on School-based Audiology Services, Audiology Services Under 504, Auditory (Re)habilitation, Classroom Acoustics, Educational Audiology Services Under IDEA: Pertinent Regulations, Hearing Assistance Technology, Hearing Screening, Noise and Hearing Loss Prevention, Role in EHDI and On-Going Hearing Loss Surveillance in Young Children, and References and Resource Materials.

(Approved by the Board of Directors of the Educational Audiology Association July 2010)

The Educational Audiologist's Role in EHDI and On-Going Hearing Surveillance in Young Children

The ability to hear is a critical advantage in the development of spoken language and subsequently literacy, particularly to the acquisition of phonemic skills. Children who have hearing loss need to be identified at birth, or as early as possible, in order to implement appropriate measures to provide access to communication to minimize the impact of hearing loss on language development, learning, and literacy. Monitoring young children for hearing loss is an essential role of educational audiologists to ensure the earliest identification.

Current instrumentation permits accurate identification of hearing loss in newborns as well as young children. State Early Hearing Detection and Intervention (EHDI) programs are supported through the Centers for Disease Control and Prevention whose mission is to have complete EHDI tracking and surveillance systems in all states and U.S. Territories "that ensures children with hearing loss achieve communication and social skills commensurate with their cognitive abilities" (www.cdc.gov/ncbddd/ehdi/nationalgoals.htm). The first three EHDI goals are referred to as the 1-3-6 plan and reflect the recommendations of the Joint Committee on Infant Hearing (JCIH):

- Goal 1: All newborns will be screening for hearing loss before one month of age, preferably before hospital discharge.
- Goal 2: All infants who screen positive will have a diagnostic audiologic evaluation before 3 months of age.
- Goal 3: All infants identified with a hearing loss will receive appropriate early intervention services before 6 months of age.
- Goal 4 specifies that all infants and children with late onset, progressive or acquired hearing loss will be identified at the earliest possible time.

The remaining three goals address medical home, tracking and surveillance systems, and system evaluation.

Within the EDHI system, specific responsibilities for screening, assessment, referral for medical or other services, habilitation, use of amplification, and counseling vary by communities and available resources. Educational audiologists can play an important role in this process including identification and on-going surveillance of hearing loss as well as providing technical assistance, consultation and training to Child Find teams to ensure best practices for early identification of late onset hearing loss. Regardless of the specific services provided, the educational audiologist must be part of the community system that assures all EHDI goals are met.

A child's hearing and communication needs change over time especially as the toddler's mobility and independence increase. Educational audiologists facilitate successful transitions from early intervention to preschool programs and services. They are in a unique position to address communication choices and to assure that appropriate intervention options are offered that carry through to other educational options. These may include hearing aid(s), cochlear implants, and/or other hearing assistance technologies such as FM systems. Educational audiologists working with early intervention providers help families understand the hearing loss and its impact on communication and speech and language development as well as the use and care of their selected amplification. Continuous monitoring of auditory skill development through observation and assessment provides data that is vital to the discussion of technology, communication choices and educational placements.

For further information on the roles and responsibilities of educational audiologists and EHDI see the Educational Audiology Association (2002) Position Statement on Early Detection and Intervention of Hearing Loss: Roles and Responsibilities for Educational Audiologists, www.edaud.org