



**Guidelines for Working with  
Students Who Are Deaf or  
Hard of Hearing in Virginia  
Public Schools**



**The Virginia Department of Education  
with  
The Partnership for People with Disabilities,  
Virginia Commonwealth University**

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### INTRODUCTION

The purpose of these guidelines is to provide resources and suggestions to enhance the provision of services to students who are deaf or hard of hearing in order to support their educational goals. They are written for special and general education administrators, teachers of students who are deaf or hard of hearing (referred to by Virginia teacher licensure regulations as HI teachers), general educators, parents, speech and language pathologists, interpreters, and any individual interested in serving the academic or functional needs of students who are deaf or hard of hearing. These guidelines replace the *Program Guidelines for Students with Hearing Impairment in Virginia Public Schools*, published in 1990, and will be updated as needed on the Virginia Department of Education (VDOE) Web site at [www.doe.virginia.gov](http://www.doe.virginia.gov).

### Law and Regulations

Although not a substitute for special education law and regulations, these guidelines offer regulatory information to school divisions in order for them to meet their obligations under state and federal law and regulations, and local school board policy.

In 1975, the passage of the Education of All Handicapped Children Act, or PL 94-142, established requirements for school divisions in the education of children with disabilities, including those who are deaf or hard of hearing. More recently, the special education statute, Individuals with Disabilities Education Act of 1997, was reauthorized by Congress as the Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. §§

1400 *et seq.* (IDEA 2004). Subsequently, in 2006, the U.S. Department of Education issued the federal implementing regulations at 34 CFR Part 300.100 *et seq.* However, revisions to the 2002 *Regulations Governing Special Education Programs in Virginia* (the Virginia Regulations), at 8 VAC 20-80-10 *et seq.* ([www.doe.virginia.gov/VDOE/Instruction/Sped/varegs.pdf](http://www.doe.virginia.gov/VDOE/Instruction/Sped/varegs.pdf)), were not final when this publication went to press. All references, therefore, to the Virginia Regulations are to the 2002 regulations. In the interim, those provisions in the 2002 Virginia Regulations that are not impacted by the IDEA 2004 and by the 2006 federal implementing regulations remain in effect. Once published, the new Virginia Regulations will be posted on the Virginia Department of Education Web site at [www.doe.virginia.gov](http://www.doe.virginia.gov).

### Terminology

Federal and state regulatory language differs from terminology commonly used in the field of deafness. In the 2002 Virginia Regulations, the term “deafness” is used to mean “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 the child’s educational performance.” The term “hearing impairment” is used to mean “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” (8 VAC 20-80-10). For the purposes of this document, “deafness” will be used to convey the same meaning as that used in the federal and state regulations; the term “hard of hearing” will be used here in lieu of “hearing impairment.” Generally, “hearing

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impairment” is a comprehensive term used to encompass all hearing losses. The term “impairment” is sometimes interpreted with negative connotations, indicative of a medical model of intervention, and will be used in this document only when referring to teacher licensure or a student’s primary disability category as that is the term currently used in the 2002 Virginia Regulations.

### Demographics

The number of infants and toddlers in the United States diagnosed as deaf or hard of hearing and receiving early intervention services has grown 40 percent since 1994 (U.S. Department of Education, 2002). This increase may be attributed to the implementation of universal newborn hearing screening. Currently, 0.15 percent (or 1.5 per 1,000) of all students have been identified as having hearing impairment as their primary disability.

- The VDOE Student Census of December 2005, indicated that there were 1,538 students in Virginia’s schools identified as deaf or hearing impaired. Approximately 10 percent of these students were served by Virginia Schools for the Deaf and Blind.
- In June 2006, there were 347 educational interpreters serving students who are deaf or hard of hearing in Virginia public schools.
- The U.S. Department of Education reported in 2002 that 41 percent of students 6 through 21 years of age who have hearing loss represent minority groups. This diversity is also represented in Virginia. Many school divisions throughout Virginia have students from homes where hearing parents speak Spanish, Pakistani, Farsi, and a host of other primary languages.

- National data suggests that about one-third to 40 percent of students diagnosed with hearing loss also have additional disabilities (Paul & Quigley, 1990; Schildroth & Hotto, 1993). These coexisting disabilities can range from mild needs that are easily corrected (e.g., visual acuity corrected with glasses or contact lenses) to severe needs that require carefully planned medical interventions (e.g., daily catheterization, special tube feedings, medication for seizures) and educational interventions (e.g., personal assistant, one-on-one resource instruction, tactile interpreting). The most common additional disabilities are cognitive delay, learning disabilities, and social-emotional disorders (Pollack, 1997).

### Unique Needs of Students Who Are Deaf or Hard of Hearing

Students who are deaf or hard of hearing have needs that differ from other groups of students. Most hearing children, with or without disabilities, enter school with a basic command of language. They are able to receive, express, and process language, and, as a result, have extensive vocabularies. Programs, services, and curricula are established in most school divisions based on the assumption that children enter school with the basic linguistic skills necessary to acquire information in the content areas. School personnel generally assume that children have sufficient language skills that enable them to learn and develop social, literacy, and computational skills.

Children who are deaf or hard of hearing usually do not enter school with the same language background as their hearing peers. Ninety to 95 percent of children

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who are born deaf have hearing parents. Unless families receive appropriate early intervention services that provide them with a means of effective communication, these children may not be able to access the communication system of those around them. The unique language and communication needs of these students present special challenges to educators regarding appropriate programming and placement [National Association of State Directors of Special Education (NASDSE), 2006].

It is critical that a student who is deaf or hard of hearing have a communication system that is accessible and allows for efficient social interaction and the sharing of ideas. Without communication skills, a student will be severely limited in language development and may lack appropriate social skills and opportunities for meaningful interaction with peers.

In recent years, federal laws and national task forces have recognized the specific educational needs of students who are deaf or hard of hearing. These needs include:

- an understanding on the part of all service providers of the nature of deafness and training needed to work effectively with students who are deaf or hard of hearing;
- a communication mode that is respected and developed to an appropriate level of proficiency;
- teachers and support personnel who are proficient in the student's primary mode of communication [34 CFR § 300.324(a)(2)(iv); 8 VAC 20-80-62 E.2.e];
- a sufficient number of peers who use the student's language/mode of communication [34 CFR § 300.324(a)(2)(iv); 8 VAC 20-80-62 E.2.e];

- involvement in program development by parents and adults who are deaf and hard of hearing, as needed; and
- access to appropriate technology, including assistive listening devices.

The educational and life consequences of inaccessibility to communication and social isolation include the following:

- reduced literacy levels (Holt, Traxler, & Allen, 1997, as cited in Siegel, 2000; Karchmer & Mitchell, 2003);
- increased risk for social-emotional disorders (Leigh, *et al.*, 1989; Hindley & Kitson, 2000);
- lower graduation rates (Easterbrooks, 1999, as cited in Siegel, 2000);
- increased reliance on government assistance (Siegel, 2000);
- lower average income than their hearing counterparts (Siegel, 2000); and
- high rates of un- and under-employment [Northern California Center on Deafness Report (NORCAL), 1998, as cited in Siegel, 2000].

Despite these statistics, more than 20,000 students who are deaf or hard of hearing attended two- and four-year colleges and universities in the United States in 1999 (Sanderson, Siple, & Lyons, 1999). This number represents a significant increase from the previous decade when 11,000 students who were deaf or hard of hearing attended colleges and universities (Rawlings & King, 1986). Students who meet college entrance requirements are currently offered a wide range of support services to access the post-secondary curriculum in Virginia.

Within the population of students who are deaf or hard of hearing, there are many variables which may affect access to

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progress in the general education curriculum. These variables include:

- type of hearing loss (See Appendix B.);
- degree of hearing loss and possible progression (See Appendix B.);
- age of onset (See Appendix B.);
- age at which intervention begins;
- effectiveness of intervention services;
- the family system;
- cultural and linguistic background; and
- additional cognitive and/or physical disabilities.

For all of these reasons, no single communication methodology, instructional strategy, technology or guideline can meet the needs of all students who are deaf or hard of hearing.

### Language and Communication Options

*“The ability to communicate effectively is essential to the human experience and necessary for cognitive development, social and emotional well-being, linguistic competence and academic growth” (NASDSE, 2006).*

While students with normal hearing usually acquire language naturally, students who are deaf or hard of hearing may have limited daily access to the speech and language used around them and may enter school with little or no language or communication skills. There are several modes that can be used by individuals who are deaf or hard of hearing to communicate, including:

- American Sign Language (ASL)/English as a Second Language (ESL);
- Auditory-Oral, Aural/Oral, Oral;
- Auditory-Verbal;
- Cued Speech; and

- Total Communication.

It is important to note that no one communication or language mode has been found to be effective for all individuals (Marschark, Lany & Albertini, 2002). Despite the method used, children need consistent exposure to proficient language models and opportunities to communicate in natural daily routines with teachers, peers, and family members. (See Appendix C.)

### Additional Factors to Consider

#### *Cultural Diversity*

Americans were identified in the Census 2000 (U.S. Bureau of the Census) as having the greatest cultural diversity ever acknowledged in the history of our country. Educating students who are deaf or hard of hearing and who are from homes where a language other than spoken English is used requires sensitivity to cultural, communication, work, and educational values within the student’s home culture. Educators who work with these students are likely to benefit from collaborative work with ESL specialists and other related service providers to understand the differences between language delays that result from hearing loss, from a multi-lingual environment, or from possible speech/language disorders. (See Introduction.)

#### *Emotional Health*

The communicative and concomitant social challenges confronted by persons who are deaf or hard of hearing might increase their risk for psychological distress, including depression, frustration, and lack of self-esteem. During the early school years, children normally identify

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with their parents and siblings who are similar to them in many ways. This identification process aids in the development of healthy social behaviors, moral values, and gender roles. When children do not have such models, they can become less confident and are more likely to exhibit inappropriate behavior. Hearing parents and other hearing adults can serve as good examples for young children who are deaf or hard of hearing if they can communicate effectively with them. Having role models who are deaf or hard of hearing also appears to be important for children who are deaf or hard of hearing (Marschark, Lang, and Albertini, 2002).

### *Cognitive Development*

Studies show that in the domains of visual attention, memory, problem solving, and creativity, there are some differences between deaf and hearing learners (Marschark, Lang, and Albertini, 2002). In most cases, the differences can be reduced or eliminated through changes in instructional methods. Teachers and parents should foster cognitive and language growth by developing a rich environment for language learning, discussing and encouraging the use of multiple meanings of words, and noting how the context influences the interpretation of a word. Studies show that use of problem-solving games, encouragement of language creativity, and use of fantasy and imagination foster improved performance on academic problem-solving tasks and can lead to improved performance and reading if they are introduced early and revisited regularly (Marschark, Lang, and Albertini, 2002).

## SERVICE PROVISION

*“Education personnel who work with students who are deaf or hard of hearing encompass a wide range of skills, abilities and talents. Any given child may require a multiplicity of services. Collaboration among services providers, families, communities and students is a key component to successful provision of services” (NASDSE, 2006, p. 80).*

### Identification

Children who are deaf or hard of hearing should be identified as early as possible. Early identification and effective early intervention are more likely to lead to age-appropriate development than later identification (Yoshinago-Itano, 2003). Identification of children who are deaf or hard of hearing (as well as children with other conditions) has two primary requisites:

- an informed public, including parents, educational personnel, medical service providers, and agencies that address the needs of children and families; and
- an ongoing identification and referral process, including screening that is in compliance with state and federal regulations in the identification of infants and children who are deaf or hard of hearing. (See the Virginia Early Hearing Detection and Intervention Program Web site at [www.vahealth.org/hearing](http://www.vahealth.org/hearing).)

Early identification requires a broad spectrum of involvement. Educators and community and health services personnel should work collaboratively and establish provisions for medical and audiological evaluations to identify preschool and school-aged children with probable

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hearing loss. Efforts must also be made by all educational programs (public, private, day, and residential) to ensure regular review of hearing screening policies and practices of children entering school and students within a program or division. Training for school administrators, classroom teachers, and support personnel that addresses current issues and concerns about students who are deaf or hard of hearing should be included in staff development efforts. School divisions and state operated programs must also stay informed regarding community services and resources for individuals who are deaf or hard of hearing and their families.

Further information about hearing screening, conservation and audiological services can be found in the *Virginia School Health Guidelines* (May 1999) and the 2002 Virginia Regulations, at 8 VAC 20-80-50.

It is important to note that if a student is suspected of having a hearing loss, evidence of passing a previous screening or evaluation should not be taken as proof of normal hearing. Progressive hearing loss and later onset of hearing loss are not uncommon.

Parents and school personnel should consider the need for all students who have hearing loss to be screened for Usher Syndrome as they get older. This syndrome, which results in deaf-blindness, will have significant implications for educational planning. If a student has been diagnosed for Usher or any syndrome which puts hearing and vision at risk, support services (e.g., orientation and mobility, instruction in the use of Braille, and assistive technology) may be required to meet the student's educational needs.

Resources may be obtained through the Virginia Project for Children and Youth with Dual Sensory Impairments/Deaf-Blindness at [www.twc-deafblind.state.va.us](http://www.twc-deafblind.state.va.us).

### Family Education and Intervention

Early diagnosis and intervention are critical components of programs serving students with hearing loss. The Virginia Early Hearing Detection and Intervention (VEHDI) program operates throughout the Commonwealth of Virginia in order to identify infants with hearing loss. (See [www.vahealth.org/hearing](http://www.vahealth.org/hearing).) The goal of the VEHDI program is diagnosis before three months of age and enrollment in early intervention by six months of age. Research has shown that children with hearing loss who are identified early and receive appropriate intervention can develop communication skills comparable to those of their hearing peers (Yoshinago-Itano, 2003).

The VEHDI program is managed by the Virginia Department of Health. Virginia law and regulations require that all hospitals with newborn nurseries and all hospitals with neonatal intensive care services screen the hearing of all newborns prior to discharge and report to the Virginia Department of Health [Va. Code §[32.1-64.1](#) (2007) and the *Regulations for Administration of the Virginia Hearing Impairment Identification and Monitoring System*, [12 VAC 5-80](#)]. Hospitals are also required to inform the parent and the child's primary care provider about the infant's risk status and/or screening results and recommendations for follow-up. In addition, persons who provide audiological services are required to:



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- report children who are at risk for hearing loss, children who fail to pass a hearing screening and children identified with hearing loss to the Virginia Department of Health;
- give parents information about hearing loss, including communication options; and
- refer families to local early intervention services. It is recommended that children who pass the newborn screening but who are at risk for developing hearing loss continue to be followed closely by parents and the primary health care providers with referral to audiologists for hearing assessments when indicated.  
(See [www.vahealth.org/hearing](http://www.vahealth.org/hearing).)

When a child, age birth to three years, with a hearing loss is identified, referral should be made to Virginia's early intervention program. The program operates within the Virginia Department of Mental Health, Mental Retardation and Substance Abuse and is called the Infant and Toddler Connection of Virginia. (See [www.earlyintervention-va.com](http://www.earlyintervention-va.com).) If a child with hearing loss meets criteria for early intervention services under the special education law (Part C, IDEA 2004) and regulations, an Individualized Family Services Plan (IFSP) is developed in conjunction with the family. Children up to three years of age may be served through an IFSP according to federal and state law and regulations. Should the family choose to transition to public school services, the child must meet the two-year-old age requirement for transition and other regulatory special education requirements. When this occurs, an Individualized Education Program (IEP) is developed.

The goal of both the IFSP and the IEP is to provide appropriate services to the child who is deaf or hard of hearing (and to his/her family in the case of an IFSP) through a detailed plan which is developed to meet the specific needs of the child. Services rendered through an IEP can only occur after the child has been determined to exhibit a disability which meets criteria for eligibility under special education law and regulations. A multidisciplinary approach should be used to evaluate a child with hearing loss. Identification of developmental, cognitive, motor, or adaptive delays may require the expertise of additional team members.

It is important that providers communicate in order to provide a smooth transition from early intervention to special education services. The goals and objectives of both the IFSP and the IEP should be coordinated.

It is critically important that parents are informed about the various communication options used by children with hearing loss. (See Appendix C.) Prior to writing an IFSP or IEP, families should:

- receive unbiased information about communication choices;
- access current literature about various communication options;
- have opportunities to observe preschool programs;
- meet children and adults who are deaf or hard of hearing;
- discuss options with professionals in the field of deafness;
- be given networking opportunities with other families with children who are deaf or hard of hearing; and
- be given access to state and national resources that can provide additional information.

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The Virginia Department of Health provides information for parents at [www.vahealth.org](http://www.vahealth.org). Additional information is available through the Virginia Department of Education at [www.doe.virginia.gov/VDOE/Instruction/Sped/HIpage.html](http://www.doe.virginia.gov/VDOE/Instruction/Sped/HIpage.html).

Discussion with families should focus on acknowledging that the use of a specific communication methodology will need regular evaluation in order to determine if the child is making satisfactory progress and if the current methodology is continuing to meet the child's and the family's goals.

Parents should be considered the primary communication partners with their children. Parent training and education should be included as an integral part of an IFSP and should also be considered by IEP teams for young children with hearing loss. Training parents to implement the goals and objectives of the IFSP is consistent with Part C service provision in a natural environment, requirements of special education law, and regulations for increased parental involvement in services provided to children with disabilities. IFSP and IEP teams should consider including parent education regarding:

- diagnostic information relative to the child's hearing loss, including:
  - the interpretation of audiograms;
  - the definition and importance of the child's "hearing age";
  - amplification benefits and limitations;
  - the correlation between audiometric information and speech perception;
  - listening distances and the effects of noise in the home and school environment; and
  - medical diagnoses that impact the hearing loss (e.g., middle ear

- effusion).
- the importance of using signed or spoken (with or without Cued Speech) language effectively with the child throughout the day.
  - Families who choose a sign language system and/or Cued Speech should be provided with instruction in the chosen sign system in a systematic manner, recognizing the importance of developing competency in the visual language as quickly as possible in order to give the child appropriate language models.
  - Families choosing spoken language should receive ongoing instruction in modeling spoken language (e.g., using grammatically correct structures, "parentese," developmentally appropriate vocabulary and sentence length with emphasis on appropriate pitch, rate, and duration).
  - Consistent use of a sensory device (hearing aid and/or cochlear implant) is important especially for families pursuing spoken language as a communication system.
- the stages and schedules of normal language development and provision of information about parallel language development when using sign systems. Parents should be educated about current brain research and critical periods for developing language.
- the use, monitoring and checking of assistive listening devices, including hearing aids, cochlear implants, and FM (frequency modulated) or infrared systems, and sound field systems. (See Appendix D.)
- the availability of and the need for alerting and safety devices, telephone adapters, TTYs,

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videophones, and devices which support access to sign or spoken language via written text (closed captioned media). (See Assistive Technology.)

- methods used to gather data for evaluation purposes and ongoing assessment procedures, test scores and other means of determining progress. Parents should be expected to provide input on the progress of goals and objectives implemented in the home setting so that appropriate therapy/lesson plans are used. As the child moves into elementary, middle and high school, parents should continue to be fully informed about information obtained for assessment and tracking progress. Parents should provide school divisions with information and assessment results from any private providers.

Effective teaming with the family should also involve:

- discussion with the family, if needed, about modifying or changing the child's program or services based on objective data collection and progress. IFSP or IEP meetings should be convened if objectives need revision or modification or if additional services are needed.
- continued efforts to involve parents in their child's education regardless of the age and grade of the child. School staff should continually encourage parents in their efforts to acquire the necessary strategies to support the child's communication methodology and provide academic support throughout the child's school career.
- consideration of the influences of family structure, including primary caregivers, siblings and extended family, on the child especially in the

area of communication.

- identification of cultural differences reflected in family dynamics and patterns of communication. Children from bilingual families may present additional needs. Particular attention should be paid to parents of children from homes with multiple languages regarding standardization of the language presented to the child. (See Cultural Diversity.)
- consideration for supporting the psychological well-being of the child. (See Additional Factors to Consider.)

### Child Study

Students who are deaf or hard of hearing may need supports in the general education setting or special education and related services to receive a free appropriate public education. School divisions are responsible for ensuring that students who may have disabilities and require special education services are identified and evaluated. Each school's child study process reviews records and other performance evidence of the student. Available information regarding the student, including hearing screening results, communication mode and abilities, and behavioral observations by teachers and parents should be considered.

If the student is suspected of having a hearing loss, the school's child study committee should include a specialist who is knowledgeable regarding issues relative to students who are deaf or hard of hearing (e.g., HI teacher, audiologist, speech and language pathologist). If one of these professionals is not available, consultation may be obtained from the Virginia School for the Deaf and Blind or from the Virginia Network of Consultants for Professionals Working with Students Who

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are Deaf or Hard of Hearing (VNOC). (See Appendix A.)

Students who are deaf or hard of hearing may also have visual, motor, learning, or social-emotional problems that may affect their academic, social, and/or communicative performance in school. The child study committee should consider the need for additional information in these areas.

Based on research findings, students with even minimal, fluctuating, unilateral, or high-frequency losses are at risk academically (Ross, 1990, as cited in NASDSE, 2006; Hawkins, 1990, as cited in NASDSE, 2006). For students with recurrent otitis media (middle ear infection), the child study committee should consider classroom modifications to address any accompanying conductive hearing loss. Provisions for monitoring through repeated immittance testing (tympanometry) should also be considered.

Students with unilateral hearing loss (hearing loss in one ear) may also be reviewed by the child study committee. While a child with a unilateral loss usually develops speech and language at a normal rate, studies have reported a higher failure rate and a higher percentage of students repeating grades than students with normal hearing in both ears (Oyler, Oyler & Matkin, 1988).

### Assessment

Special education law and regulations require school divisions to ensure the following:

- Assessments and other evaluations used to assess a child are (1) selected and administered so as not to be

discriminatory on a racial or cultural basis; (2) provided and administered in the child's native language or other mode of communication and in the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally, unless it is clearly not feasible to so provide or administer; (3) used for the purposes for which the assessments and measures are valid and reliable; (4) administered by trained and knowledgeable personnel; and (5) administered in accordance with any instructions provided by the producer of such assessments;

- The child is assessed in all areas of suspected disability; and
- Assessment tools and strategies that provide relevant information that directly assists persons in determining the educational needs of the child are provided. [See 34 C.F.R. §300.304(c)].

These specifications raise several issues for the assessment of students who are deaf and hard of hearing. Educators should consider the following guidelines:

- **Be familiar with the ethical, professional and legal standards for specific professions regarding assessment of minority populations.** Typically, these guidelines cover topics such as required competency, need for additional training and consultation, standards for fair and unbiased assessment, and appropriate test selection and interpretation of results for students who are deaf or hard of hearing.
- **Consider the student's primary mode of communication and the goal of the specific assessment.** Explore whether there is a professional such as a psychologist, teacher,

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speech-language pathologist, or other educator who administers tests and who has fluency in the student's primary mode of communication (ASL, a signed English system, Cued Speech) or familiarity with technology for the deaf. If not, testing is likely to require an additional person, an interpreter or a transliterator who communicates the language of the test administrator and possibly the responses of the student. Review the test with the interpreter ahead of time and be familiar with the potential impact of using an interpreter on the assessment process.

- **Select assessment procedures that are reliable and valid for students who are deaf or hard of hearing.**

Deafness is a low incidence disability and there are few studies exploring the validity of specific tests for use with students who are deaf or hard of hearing. In this situation, professionals with experience in the field of deafness should make selections based upon their expertise, the individual needs of the student, and the goals of the assessment. Some tests have collected normative data that allow the performance of an individual student to be compared to the performance of many students who are deaf or hard of hearing. These norms may provide general comparative information that can be helpful for educational planning, but having specific normative data for this population does not necessarily mean the test is valid for use with students who are deaf or hard of hearing. A test is valid when research has demonstrated that the test is measuring what the test was designed to measure (construct validity). The population of students who are deaf or hard of hearing is

diverse with respect to hearing loss, communication mode, parental hearing status, benefit from and use of technology, early intervention services, and educational and community resources. It may be difficult to compare an individual student to global norms where these characteristics are averaged. For example, the academic progress and needs of a 10-year-old student with a mild bilateral hearing loss using hearing aids and communicating orally will likely be different from that of a 10-year-old student with a profound bilateral hearing loss communicating in ASL.

- **Recognize how accommodations and modifications for communication may create a nonstandard administration and assessment process.**

Often it is impossible to administer a specific test following the strict administration and interpretation guidelines developed for hearing students. In this situation, it is important to describe any adjustments made to the assessment process and the communication mode used by both the student and the examiner. Professionals should be aware of the communication, linguistic and cultural influences upon the scoring and interpretation of tests. These accommodations may produce a situation where it is impossible and/or inappropriate to use standard scores and therefore it is necessary to provide more descriptive and qualitative interpretations. When interpreting tests into sign language, some test items will not translate directly from English to ASL. Interpretations into ASL also do not address other test factors such as appropriateness of picture support, cultural bias, topic, and sound-based

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content that may confound the validity of the test for students who are deaf or hard of hearing.

- **Collect information from multiple sources using multiple formats and procedures.** Given the significant challenges of collecting valid assessment information for students who are deaf or hard of hearing, useful assessments will rely upon information collected from multiple settings and in multiple formats. Parents, general educators, special educators, speech-language pathologists, interpreters, and audiologists are only a few of the important sources of information for assessments. Using multiple procedures, such as interviews, direct observations, classroom performance, behavior rating scales, standardized assessments and informal assessment procedures, will provide the most complete information for making special education decisions.

### Assessment Domains

#### *Audiological Assessment*

Students who are referred for evaluation in order to determine eligibility for special education services under special education law and regulations must be screened for hearing loss. Should a student fail two screening tests, a complete audiological assessment must be done. In addition, all students new to a school division must be screened within 60 business days of initial enrollment. The 2002 Virginia Regulations further require that students in grades 3, 7 and 10 are to be screened for hearing loss during the school year.

If a student fails the school hearing screening, he or she may be re-screened after 60 business days if the original

results are not considered valid. The *Virginia School Health Guidelines* recommend that rescreening be scheduled within two weeks of the first screening. Local school divisions must provide written notice to parents of the scheduled screening and, if the student does not pass, the results of the screening. The 2002 Virginia Regulations further require the school division to refer the student “to the special education administrator or designee no more than five business days after screening or rescreening if results suggest that a referral for evaluation for special education and related services is indicated. The referral shall include the screening results” (Virginia School Health Guidelines, May 1999, p. 197; 8 VAC 20-80-50 C and 54 E.).

A student with identified hearing loss who is evaluated to determine whether the student has a disability and is eligible for services under Part C or Part B of special education law and regulations should have a complete audiological assessment, including tests which will assess middle and inner ear functioning (Va. Code § 22.1-214). The following assessment components may be administered in order to determine the degree and extent to which a hearing loss may impact the student’s academic progress. Assessment may include the following:

- Pure tone air and bone conduction thresholds or minimum response levels to determine the degree and nature of the hearing loss. Hearing loss may present as conductive, sensori-neural, or mixed. (See Unique Needs of Students Who Are Deaf or Hard of Hearing and Appendix B.)
- Speech Awareness Thresholds to determine the minimum level at which speech can be detected.
- Speech Reception Thresholds to

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determine the minimum level at which the child can detect and understand speech stimuli.

- Speech Recognition testing to determine the child's ability to accurately repeat controlled speech stimuli at comfortable levels above speech reception thresholds.
- Immittance testing to determine middle ear status. Test results yield information relative to eardrum mobility and compliance and acoustic reflex measurements.

For children who are not able to respond to the tests listed above:

- electrophysiological tests which may include Auditory Brainstem Response testing to confirm or deny the presence of a hearing loss and determine degree of hearing loss, as warranted, and/or Otoacoustic Emission testing to assess the integrity of the inner ear or cochlea, as warranted.
- a combination of Auditory Brainstem Responses, Otoacoustic Emission test findings and behavioral audiometric tests may be necessary to fully diagnose the hearing loss and differentiate whether the loss is conductive, sensori-neural, or mixed or whether the hearing loss is caused by auditory neuropathy/dysynchrony.

The age of the student, degree of hearing loss, ability to perceive or imitate speech, and ability to respond to a conditioned task may be factors that affect the proper completion of an audiological evaluation. Assessment may become an ongoing process in order to effectively acquire all necessary information for a comprehensive evaluation.

Continued management of a child's hearing loss following diagnosis requires

that the child be seen for updated audiological evaluations on a periodic basis. Young children may be seen for updated testing every 3-6 months or sooner. Older children may be seen at least annually for updated assessment. Children with hearing aids or cochlear implants are usually followed closely in order to monitor the function of their respective devices. Furthermore, evaluations may be used to document the risk or occurrence of progressive hearing loss and ongoing medical intervention.

Once a hearing loss is diagnosed, further evaluations should be conducted to determine the most appropriate amplification devices or candidacy for cochlear implantation.

A hearing aid evaluation and fitting usually includes:

- pure tone air conduction testing, unaided and aided;
- Speech Awareness Threshold, Speech Reception Threshold and Speech Recognition testing, unaided and aided;
- determination of maximum comfort levels, dynamic range for amplification and functional gain of the hearing aid;
- determination of appropriate earmold fitting; and
- real ear measurements to objectively evaluate hearing aid and earmold responses.

Based on the evaluations, the audiologist may also provide:

- explanations of the benefits and limitations of sensory devices and the effect of devices on perception of speech;
- information relative to educational planning given the degree of hearing

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- loss, device usage and expectations for speech and language development;
- schedules for management of hearing loss and amplification devices/cochlear implant(s);
- updated reports to educational service providers following parental permission and school division procedures; and
- recommendations for assistive listening devices, as needed, as well as other assistive technology needs and support for appropriate fitting and management of assistive listening devices.

Audiological assessment, fitting and device management must be completed by an audiologist licensed by the Virginia Board of Audiology and Speech-Language Pathology and holding a Certificate in Clinical Competence in Audiology from the American Speech-Language-Hearing Association (ASHA). The 2002 Virginia Regulations, at 8 VAC 20-80-60 D, and the federal implementing regulations, at 34 CFR § 300.113(a), state that each school division must “ensure that hearing aids worn in school by children with hearing impairments, including deafness, are functioning properly.” The IDEA 2004 and the federal implementing regulations, at 34 CFR § 300.113(c), state that each school division must “ensure that the external components of surgically implanted medical devices are functioning properly.” However, the law and regulations exclude the school division from being responsible for the post-surgical maintenance, programming, or replacement of the medical device (e.g., a cochlear implant) that has been surgically implanted or of an external component of the surgically implanted medical device. The federal regulations, at 34 CFR § 300.34(b), further define related services

as not including a medical device that is surgically implanted, the optimization of the device’s functioning (e.g., mapping), maintenance of that device, or the replacement of that device. (See Appendix D.)

### *Communication/Language Assessment*

Communication is one of the most challenging areas of assessment especially for students who are deaf or hard of hearing and who use ASL or a manually coded English system. Most hearing preschoolers enter school with proficiency in a spoken first language. These skills form the linguistic foundation of written language literacy. Many preschool students who are deaf or hard of hearing enter school without the conversational or narrative language skills (in either spoken English or ASL) necessary to develop preliteracy skills. Language must precede literacy.

Therefore, the highest assessment priority should be placed on conversational and narrative language skills in the student’s preferred communication modality. For ASL users, a scale of conversational proficiency has been developed for typically developing children who are deaf or hard of hearing. It is essentially a rubric to be completed by at least three people, one of whom should have native fluency in the child’s first natural language. (See Appendix E.) Some professionals who specialize in communication assessment refer to this as authentic assessment (e.g., Schirmer, 2000) because it involves real communication that does not fit the parameters of formal testing. When day-to-day communication involves sign language or another visual communication system, videotaping is a valuable tool. Formal standardized measures of ASL



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proficiency are not available. Although indications of primary language disorder (PLD) can be observed during both formal and informal language assessment, clinicians will not be able to rely on standard scores for the determinations of language pathology in students who are deaf or hard of hearing.

Spoken English proficiency and intelligibility can be assessed using traditional procedures and articulation measures if the student is using relatively fluent utterances or has an adequate single word vocabulary to perform the assessments. Intelligibility measurements should consider the listener's:

- experience with the speech of individuals who are deaf or hard of hearing;
- familiarity with the student in particular;
- prior knowledge of the topic; and
- degree of visual access to the speaker's face.

A student's "hearing age," the age at which amplification was received or a cochlear implant was activated, should be considered when determining age-appropriate speech targets. When assessing social-pragmatic communication, consider the student's direct communication with peers and adults in a variety of settings and how the student communicates using an interpreter. The ability to attend to and communicate through an interpreter, and to request and make repairs when communication fails, is not uniform across all students who work with interpreters (Seal, 2004). Assessing the student's work with interpreters (Seal, 2000), the ability to use telecommunication technology (e.g., e-mail, text messaging, telephone relay) or other text recordings can be addressed

through authentic assessment. The student's sensitivity to and accommodation of varying sign skills among communication partners should also be noted.

### *Developmental Assessment*

Developmental assessments may be requested to determine initial eligibility for special education, collect a baseline of global functioning, develop intervention goals, and/or transition a child from early intervention services into a school setting. Developmental assessments might be conducted by:

- parent infant coordinators;
- early intervention service providers;
- preschool specialists;
- teachers;
- psychologists; and/or
- social workers.

Developmental assessments typically compare a child who is deaf or hard of hearing to a normative group of hearing peers or against a criterion of developmental skills typically established at specific ages. Examiners should consider the auditory and communication experiences of a young child with hearing loss when interpreting these scores for parents and/or educational purposes. For example, when measuring the auditory skills of a child with a cochlear implant, the child's "hearing age" should be calculated using the date the cochlear implant was activated. Development of listening skills is tracked using the activation date instead of an actual birth date. Assessment of other domains such as fine and gross motor skills might be complicated by communication deficits. For example, if an examiner does not have a way to ask a child to cut a circle, it is hard to determine if the child has the fine

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motor ability to complete the task.

### *Educational Assessment*

A comprehensive educational assessment of a student who is deaf or hard of hearing may be completed in order to establish baseline levels of academic performance, monitor progress over time, develop goals and objectives for a student's IEP, and determine present level of performance. It is recommended that educational or academic testing be conducted along with assessments of receptive and expressive language abilities in order to determine a comprehensive picture of a student's strengths and needs. Teachers and professionals should consider the goal of the assessment when selecting test measures because different kinds of measures (e.g., criterion-referenced, norm-referenced, alternate or authentic, curriculum-based) will provide different information. The use of typical, standardized, norm-referenced achievement tests such as the Wechsler Individual Achievement Test (WIAT-II) and Woodcock Johnson III Tests of Achievement (WJ III) can be complicated by communication modality, difficulty with translating questions, use of hearing peers as the normative group, and lack of validity studies, but these tests still may be appropriate sources of information. Criterion-referenced tests and curriculum-based measurement probes may provide a more unbiased method of monitoring progress over time, especially when an individual student's performance is compared against his or her own baseline rather than against those of hearing peers. (See Appendix E.) Authentic assessments and collection of performance-based evidence (portfolios) complement other sources of educational data. Classroom observations may provide insight into how

a student is accessing information in the classroom, benefiting from assistive listening devices, interacting with teachers and peers, and responding to instructional strategies.

Teachers are encouraged to monitor educational progress closely in students who have hearing loss. Research shows that at least one-third of students who are deaf or hard of hearing have a secondary disability (Paul & Quigley, 1990; Schildroth & Hotto, 1993) and this may impact educational progress. If a student is not making adequate educational progress, the IEP team should reexamine communication access and may consider referring the student for a comprehensive multi-disciplinary evaluation to rule out additional influences upon learning. (See Appendix E.)

### *Psychological Assessment*

Psychological assessments may be requested to collect data regarding a variety of functional domains. These include cognitive skills such as intelligence, problem solving, memory, attention and verbal comprehension skills. Additional domains of assessment may include social-emotional functioning, visual-perceptual and visual-motor skills, and adaptive behavior or daily living skills. A student's fluency in English is likely to significantly impact the validity of many standardized psychological measures. It is recommended that all psychological results be interpreted within the context of a multi-disciplinary assessment and be based upon a variety of techniques and measures (Blennerhassett, 1990). Assessment techniques might include interviews with family members, the student and educational personnel; behavioral observations; functional

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behavioral assessment; and/or additional standardized psychological tests. Examiners who are administering psychological tests with students who use sign language should be aware that many directions and actual test items do not translate directly into ASL. It is helpful to review all materials with an interpreter before starting the administration. When interpreting test results, it is important to consider how the unique social, cultural, linguistic and educational experiences of children who are deaf or hard of hearing can significantly impact their performance (Blennerhassett, 1990). Consultation regarding psychological assessment of children who are deaf or hard of hearing is available from the Virginia School for the Deaf and the Blind, and from the Virginia Network of Consultants (VNOC). (See Appendix A.)

### *Intellectual Assessment*

Based upon meta-analytic reviews of the research regarding deafness and intellectual development, Braden (1994) reported that children and adults who are deaf or hard of hearing obtained scores on performance or “nonverbal” intellectual tests that were equivalent to the general population. A hearing loss alone should not negatively impact a measure of fluid intelligence or novel problem solving. Research suggests that one-third to 40 percent of students who are deaf or hard of hearing have an additional disability (Paul & Quigley, 1990; Schildroth & Hotto, 1993) which may impact cognitive functioning.

When the referral question is related to the general intellectual skills of a student with a hearing loss, it is often appropriate to use intellectual measures that are nonverbal in format. Even when using tests with a

nonverbal format, psychologists should be familiar with the validity evidence for a specific test. Recent state-of-the-art research using techniques such as differential item functioning (DIF) and confirmatory factor analysis has called into question the construct validity of commonly used tests such as the Wechsler Intelligence Scale for Children, Third Edition (WISC-III) with students who are deaf or hard of hearing (Maller, 2003). With recent revisions and updates of many intellectual tests, there is little evidence available regarding the validity of many current tests. Validity research on the use of the WISC-IV with students who are deaf or hard of hearing is currently being conducted, and the Wechsler Nonverbal Scale is currently in development. Other tests have included guidelines for which subtests are appropriately administered using various communication modalities. The construct validity of the Universal Nonverbal Intelligence Test (UNIT) for students who are deaf or hard of hearing was confirmed with DIF analysis, suggesting that the UNIT does not have any items with a bias against students with hearing loss (Maller, 2003). Other traditionally used tests include the Leiter International Performance Scale – Revised: Visualization and Reasoning Battery; the Comprehensive Test of Nonverbal Intelligence (CTONI); Kaufman Assessment Battery for Children - Nonverbal Scale; Differential Abilities Scale; Cognitive Assessment System; and selected subtests from the Woodcock-Johnson III Tests of Cognitive Ability.

More “verbal” scales of traditional intellectual tests are heavily influenced by a student’s access to the English language. Students who have hearing loss do not have the same access to the English language as hearing students; therefore,

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Verbal Scale or Full Scale summary scores from traditional intellectual measures may not provide a valid estimate of general intellectual functioning for students who are deaf or hard of hearing. Some professionals have suggested that Verbal Scales may provide information about a student's verbal comprehension *achievement*, or a student's current verbal comprehension *skills*. However, research has demonstrated that when given to students who are deaf or hard of hearing, verbal IQ tests do not measure the same construct that is measured when the test is given to students who have normal hearing acuity. Without sufficient evidence of validity, verbal tests should be used cautiously with students who have hearing loss (Maller, 2003).

### *Cognitive Skills*

Given that at least one-third of students who are deaf or hard of hearing have an additional disability (Paul & Quigley, 1990; Schildroth & Hotto, 1993), it can be helpful to assess additional domains of cognitive processing such as memory, attention, and executive functioning. Examiners should be aware that there are some unique findings within the deaf population with respect to visual-spatial processing (Belmont & Karchmer, 1978; Bettger, Emmorrey, and Bellugi, 1997), working memory (Kelly, 1990; Rodda & Grove, 1987), and the impact of attention problems.

When assessing memory skills, it is important to consider that visual and auditory information is encoded and stored differently in working memory. Students who are deaf or hard of hearing and students with normal hearing acuity have the same working memory span or capacity, but differences in performance

arise based upon the specific encoding strategies a student uses. In general, phonological or speech-based encoding (articulatory loops) allows more information to fit into one's working memory span than visually encoded information. This means that students who are deaf or hard of hearing and who rely primarily upon oral communication modalities may demonstrate advantages on sequential or serial working memory tasks, whereas children who are deaf or hard of hearing and who are fluent in ASL may show advantages on simultaneous processing of visual figures. The working memory processes of students using Total Communication modalities are likely to depend on the specific encoding strategies used for a specific task (Marschark, 2003).

Problems with visual attention can be secondary to language processing problems, learning disabilities, emotional problems, attention deficit disorder or attention deficit hyperactivity disorder. Attention problems may seriously limit the input of information for a student who is deaf or hard of hearing; therefore, it is essential to consider all relevant hypotheses. Interpretation of executive functioning measures may also be related to a student's general fluency with language and specific fluency with English. There is little research available regarding the executive functioning or neuropsychological development of children who are deaf or hard of hearing (Edwards, 2004).

### *Social-Emotional Development*

Meadow-Orlans (1983) noted that there is nothing inherent in the condition of deafness that leads to differences in social and emotional development of children who are deaf and hearing, but that several

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factors may influence development in this area. Relative language deprivation, defined liberally as relative weaknesses in receptive or expressive communication skills and/or lack of opportunity for fluent direct communication both at home and at school, may have a critical impact on overall social competence and development. If parents cannot communicate directly or fluently with their children, there are reduced opportunities for modeling direct problem solving, teaching right from wrong, instilling family values and cultural traditions, or supporting increasing levels of independence. Often children with a hearing loss do not have the opportunity to overhear communication, such as adults correcting other children, leading to generally limited opportunities for incidental learning. Language deficits can also lead to decreased skills in taking the perspective of other people and, as such, negatively impact the development of emotional maturity and empathy. Learning that a child has a hearing loss can be a traumatic experience for a family, and the degree to which a family has accepted this news can also impact the emotional development of the child. The acceptance or lack of acceptance of children by significant others in the environment may lead to negative feelings about themselves that would be demonstrated by embarrassment about the visible signs of their deafness such as hearing aids, sign language, and/or unintelligible speech. In addition, caregivers may feel compelled to be overly protective or overindulgent. All children with disabilities are also at an increased risk for abuse and neglect, and historical studies place the incidence of sexual abuse at 50-54 percent for girls and boys who are deaf or hard of hearing (Sullivan, Vernon & Scanlan, 1987).

Given the various social and emotional issues which impact the development of children who have hearing loss, social/emotional evaluations are often helpful. Evaluations of social and emotional development can be completed within a psychological evaluation, within a social history, and/or with input from an individual or family counselor. Again, the validity of many objective personality measures or standardized assessments used with children who are deaf or hard of hearing can be impacted by their fluency with English. It is prudent to supplement standardized data with direct observations of behavior, input from caregivers and educational personnel, and interviews.

### *Visual-Perceptual/ Visual-Motor Integration Skills*

Given that most social, educational and environmental information is acquired through the visual modality for many students who are deaf or hard of hearing, it is important to determine that this visual information is being perceived and interpreted accurately. Visual perception does not refer to how clearly a person sees, or visual acuity. Instead, visual perception refers to how the brain understands and uses visual information. There is some evidence that adults who are deaf and who use sign language demonstrate better performance on some visual tasks (rapidly shifting attention, visual detection of motion and sign language in the periphery, facial recognition) than adults who are hearing or deaf and use spoken language; however, it is not clear whether these advantages are seen in children (Marschark, 2003). Students who are deaf or hard of hearing with cognitive or learning disabilities may demonstrate deficits in visual perception that need to be

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addressed or accommodated within the learning environment. Visual perceptual deficits have been linked to social problems in students who are hearing with nonverbal learning disabilities, and would likely have a more significant impact on students who are not able to compensate with auditory input (Morere, 2005). Assessments of visual perception by a psychologist or occupational therapist should be considered for students who are deaf or hard of hearing and who are not making expected academic progress.

### *Adaptive Living or Daily Living Skills*

Assessment of adaptive behavior or daily living skills may be required when clarifying cognitive functioning, such as when determining eligibility for special education services for children with mental retardation or intellectual disabilities, or when planning for the transition from high school to the community. Evaluation areas may include self-help skills, independent functioning, daily living skills, communication, and social skills.

Examiners should be aware that most adaptive assessments include many questions that relate to communication, and at times it is difficult to determine whether a low score represents lack of opportunity due to hearing loss (e.g., using a payphone) or a true skill deficit (e.g., reading street signs). Qualitative descriptions of specific skills, performance-based observations and close inspection of specific items often help to differentiate between the direct effects of hearing loss and true adaptive skill deficits.

## Eligibility

The purpose of eligibility is to determine if a child has a disability and is in need of special education and related services. Eligibility for special education for students who are deaf or hard of hearing follows the same procedures as for students with other disabilities (34 CFR § 300.306; 8 VAC 20-80-56). The 2006 federal implementing regulations, at 34 CFR § 300.101(c), provide that a free appropriate public education must be made "available to any individual child with a disability who needs special education and related services, even though the child has not failed or been retained in a course or grade, and is advancing from grade to grade" (8 VAC 20-80-60 A). As such, a student should not be precluded from consideration for special education and related services merely because the student has not yet failed academically.

The following auditory disorders may constitute conditions that warrant consideration for special education and related services:

- congenital sensorineural hearing loss;
- acquired sensorineural hearing loss;
- progressive sensorineural hearing loss;
- congenital conductive hearing loss;
- acquired conductive hearing loss;
- progressive conductive hearing loss;
- intermittent, recurrent, or temporary conductive hearing loss;
- mixed (conductive and sensorineural) hearing loss;
- bilateral or unilateral hearing loss; and
- auditory neuropathy (also called auditory disynchrony).

Note: Auditory processing disorder, also known as central auditory processing disorder, is a condition which is diagnosed

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by an audiologist and may sometimes require special education and related services. However, auditory processing disorder is a neural processing disorder rather than a hearing acuity impairment. “Students with an auditory processing disorder will benefit from a multidisciplinary team approach to management. The team may include the classroom teacher, speech-language pathologist, special education teacher (often the teacher of students with learning disabilities), school psychologist, educational diagnostician, audiologist, and parent” (VDOE, *Speech Language Pathology Services in Schools: Guidelines for Best Practice*, 2005, p. 52).

The following areas are recommended for consideration when evaluating students with hearing loss for eligibility:

- academic achievement;
- classroom performance;
- learning strategies;
- competence in spoken language;
- competence in written language; and
- social and emotional adjustment.

The effect of a hearing loss on a given student’s achievement is a result of several interactive factors including:

- type of hearing loss;
- etiology and age of onset of hearing loss;
- age at which intervention occurred;
- effectiveness of early intervention,
- language acquisition;
- visual and auditory perceptual and processing abilities;
- linguistic and communicative competence for age; and
- health issues and/or disabling conditions.

If a student is found eligible for special education due to hearing loss, the degree

of special education and related services varies for each student.

In determining eligibility for preschool services for a child transitioning from Part C services, team members, including early intervention providers, should consider the supports needed for the child to make a successful transition to the identified school setting. Without services, a child who has a hearing loss is unlikely to be on par with his or her hearing peers upon entry into kindergarten. When possible, an HI teacher or other specialist should be present to provide input at the eligibility meeting.

### Placement

“Any setting, including a regular classroom, that prevents a child who is deaf from receiving an appropriate education that meets his or her needs, including communication needs, is not the [least restrictive alternative (LRE)] for that individual child... Any setting which does not meet the communication and related needs of a child who is deaf, and therefore does not allow for the provisions of [free appropriate public education (FAPE)], cannot be considered LRE for that child ... The Secretary is concerned that some public agencies have misapplied the LRE provision by presuming that placements in or closer to the regular classroom are required for children who are deaf.”

Deaf students education services:  
Policy guidance.

57 Fed. Reg. 49275 (October 30, 1992).

Since 1975, the passage of PL 94-142, the Education of All Handicapped Children Act, has required that all children be educated in the least restrictive environment (LRE), with their non-

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disabled peers. Using inclusive practices, such as placement in the general education classroom, is an emerging trend to assure access to the general education curriculum. The unique communication and language needs of many students who are deaf or hard of hearing present a special challenge to teams when determining a child's LRE. Continuous access to information and opportunities for both incidental learning and learning through peer interaction are important considerations when determining LRE.

The U.S. Congress passed the Education of the Deaf Act of 1986 and appointed the Commission on Education of the Deaf (COED) to study the status of deaf education in the United States and to recommend creative solutions for the low communication skill and academic achievement levels of children who are deaf or hard of hearing. The COED report, *Toward Equality: Education of the Deaf* (1988), recommended actions required to activate change. Primary among these issues were:

- the need to review the concept of LRE for children who are deaf or hard of hearing, and
- the concern that placement decisions were being made on inadequate assessment information and without consideration of family preference.

The Commission noted that the movement of children into general education classrooms, while desirable and appropriate for many children who are deaf or hard of hearing, created an "educational and psychosocial void for others. Particularly affected were those children who were deaf and used visual communication systems (e.g., ASL, English signs, Cued Speech) as their primary language" (Baker-Hawkins &

Easterbrooks, 1994, p. 6). The U.S. Department of Education issued a Policy Guidance on Deaf Students Education Services [57 Fed. Reg. 49274 (October 30, 1992)], to implement several COED recommendations regarding appropriate education for students who are deaf. The Policy Guidance listed factors to be considered in developing the IEP, including:

- communication needs and the child's and family's preferred mode of communication;
- linguistic needs;
- severity of hearing loss and potential for using residual hearing;
- academic level;
- social, emotional, and cultural needs, including opportunities for peer interactions and communication; and
- consideration of curriculum content and method of curriculum delivery.

Students who are deaf or hard of hearing vary in their individual profiles and abilities. All program options should be examined and the most appropriate one selected based on the needs of the individual child and his or her family.

"Regardless of the placement, professionals and parents must understand the importance of social communication and activities both in and out of school and how such interactions represent natural child development. Members of the IEP team should be sensitive to the importance of these social opportunities. The ability of a program to provide physical access (e.g., adjusted transportation schedules) and communication access (e.g., direct access to staff who communicate in the student's preferred language or mode of communication) is a crucial aspect parents and public agencies must consider."



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### *Deaf and Hard of Hearing Students Educational Service Guidelines*

(NASDSE, 2006, p.53)

A continuum of alternative placements and services should be considered as a part of the IEP process for students who are deaf or hard of hearing. Options include:

- direct instruction and/or resource services within the regular class with support services from a teacher who has HI endorsement, speech-language pathologist, educational audiologist, and/or educational interpreter;
- general education class with instruction in the resource room;
- selective placement in the general education program according to abilities of the student with related services as necessary within the resource room from a teacher who has HI endorsement, speech-language pathologist, educational audiologist, and/or educational interpreter;
- self-contained class for students who are deaf or hard of hearing with full-time academic instruction by a teacher who has HI endorsement in a general education public school facility; non-academic instruction with hearing peers; and related services provided as necessary (speech-language pathologist, educational audiologist and/or educational interpreter);
- self-contained class with full-time academic/developmental and nonacademic instruction in general education public school facility and related services provided as necessary (speech-language pathologist, educational audiologist, teacher who has HI endorsement and/or educational interpreter);
- separate public day school for students who are deaf or hard of hearing;
- private day school for students who

- are deaf or hard of hearing;
- public and/or private residential school for students who are deaf or hard of hearing;
- homebound; or
- hospital.

Students who are deaf or hard of hearing and who have additional disabling conditions (e.g., mental retardation, deaf-blindness, serious emotional disturbance, orthopedic impairment, and/or autism) may require placement and/or services from other categorical special education programs.

Students who are deaf or hard of hearing should have opportunities for participation with hearing peers and with peers who are deaf or hard of hearing. Members of each IEP team should consider a student's unique needs and each of the following factors when developing an appropriate program:

- academic performance and developmental needs;
- necessary curricular modifications or accommodations;
- student's communicative/language abilities;
- the level of communication access in the classroom, home, and overall school environment;
- qualifications and communicative competencies of personnel;
- quality of interpreting services and the ability of the child to use them;
- availability of a sufficient number of age-appropriate peers who are deaf or hard of hearing and who communicate using the same methodology (for oral children, availability of a sufficient number of age-appropriate peers who are not delayed in speech and language);
- behavioral management or assistance

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needed;

- physical characteristics of the setting (visual, acoustics);
- preference of the child and family;
- student motivation and attitude; and
- needed technology.

It is important for students with hearing loss to have interaction with peers who are also deaf or hard of hearing. A 2002 study indicated that approximately 34 percent of students with hearing loss in the U.S. were attending public schools with fewer than six other students with hearing loss across all school ages (Easterbrooks & Baker, 2002). Every effort should be made to provide education and direct communication in the student's preferred language mode. "Direct communication means child-to-child and child-to-staff without using the interpreter or teacher as a mediator in all language exchange throughout the school day" (NASDSE, 2006, p.11).

*"If the student is in a school where there are no other students who are deaf or hard of hearing who communicate in the same way, the IEP team needs to address ways in which the classroom peers and staff will learn to communicate with the student. For example, this may mean sign language instruction is delivered as part of the class curriculum or as part of regularly scheduled school activities."* (NASDSE, 2006, p.56)

### IEP Development

When the eligibility committee has determined that a student who has a hearing loss is eligible for special education services, an individualized education program (IEP) must be developed within 30 calendar days (8

VAC 20-80-62 B).

The following factors may be considered when developing an IEP for a student who is deaf or hard of hearing:

- communication needs and the child's and family's preferred mode of communication;
- linguistic needs;
- severity of hearing loss and potential for using hearing;
- academic level;
- social, emotional, and cultural needs, including opportunities for peer interactions and communication; and
- consideration of curriculum content and method of curriculum delivery [57 Fed. Reg. 49275 (October 30, 1992)].

Special education law and regulations require the IEP team to consider the communication needs of the child. In the case of a child who is deaf or hard of hearing, the IEP team must consider:

- the child's language and communication needs;
- opportunities for direct communication with peers and professional personnel in the child's language and communication mode;
- academic level; and
- the full range of needs, including opportunities for direct instruction in the child's language and communication mode [34 CFR §300.324(a)(2)(iv); 8 VAC 20-80-62 E].

The IEP for any student who is deaf or hard of hearing should be communication driven. A tool to assist the IEP team in its consideration of a student's communication needs is a "communication plan." This plan may be used during the development of the initial IEP and reviewed annually as it provides a

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means for the IEP team to examine whether or not the student's communication needs are being met and to plan for support (NASDSE, 2006). (See Appendix G. See also NASDSE's Deaf Education Initiative at [www.nasdse.org](http://www.nasdse.org).)

### PERSONNEL

#### Staff

Professionals should be hired who meet professional qualifications and who are able to communicate proficiently in the mode used by the student. Determination of staff for provision of services to students who are deaf or hard of hearing must be based on each student's individual needs. Direct service staff may include the following professionals:

- teacher endorsed in Hearing Impairment (HI);
- early childhood special educator; and
- general education teacher.

Having qualified support staff is also an integral part of a program for a student who is deaf or hard of hearing. This support staff may include the following professionals:

- audiologist;
- auditory/oral specialist;
- behavior specialist;
- counselor;
- Cued Speech specialist;
- early intervention specialist;
- educational interpreter/transliterator;
- English as a Second Language (ESL) specialist;
- instructional paraprofessional;
- itinerant teacher;
- multiple disability specialist;
- notetaker;
- oral communication facilitator;
- occupational therapist;

- physical therapist;
- professionals who are deaf;
- program coordinator/supervisor;
- psychologist;
- social worker;
- special education teacher (other than the HI teacher);
- speech-language pathologist;
- technology specialist;
- tutor;
- vocational educator;
- vocational evaluator; and/or
- vocational rehabilitation specialist.  
([www.vadrs.org/essp/dhh.htm](http://www.vadrs.org/essp/dhh.htm).)

#### Collaboration

Creating properly integrated programs for students who are deaf or hard of hearing requires careful scheduling and the development of collaborative relationships among professionals to provide appropriate student, parent and staff supports. Regular meetings between the HI teacher, general education teacher, speech-language pathologist and educational interpreter to share information and to plan for upcoming instructional units are strongly recommended. Specialized content vocabulary and concepts may need to be pretaught by the HI teacher and/or the speech-language pathologist. The interpreter may need to preview audio-visual materials and/or prepare signs ahead of time for technical vocabulary in lessons. The HI teacher and general education teacher should discuss differentiated instructional strategies that may be used to make lessons more effective for students who are deaf or hard of hearing. Information on implementing effective co-teaching strategies may be found by accessing the Virginia Department of Education Training and

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Technical Assistance Centers' (T/TAC)  
Web site at [www.ttaonline.org](http://www.ttaonline.org).

### Related Services

#### *Educational Interpreters*

Educational interpreters are professionals who play an important role in facilitating communication between some students who are deaf or hard of hearing and their teachers and peers. Students who are deaf or hard of hearing are entitled to access the same general education curriculum as their hearing peers. It is essential that students possess the adequate cognitive, linguistic, and academic readiness skills that will allow students to benefit from interpreter services. In some cases, direct instruction from a teacher of the deaf and hard of hearing should be given priority over instruction delivered through use of an educational interpreter.

Educational interpreting can occur anywhere that a student is engaged in learning (e.g., classroom, lab, gym, athletic field, stage, shop). Access to the social communication that occurs in educational settings (e.g., recess, lunch, extracurricular activities) is also important to all students, including those who may access the information through their interpreters. Allowing students who are deaf or hard of hearing to access the general educational curriculum is good practice and a right guaranteed by the Americans with Disabilities Act (ADA) of 1990 and the IDEA 2004. Interpreting services accommodate the communication needs for students as determined by the IEP team. In the general education setting, the interpreter is often the only communication/language model for a student who is deaf or hard of hearing.

The term *interpreting* is commonly used to represent the following range of services:

- **Sign language interpreters** improve communication by signing the spoken language of hearing persons and voicing the sign language of the person who is deaf or hard of hearing. This voice-to-sign and sign-to-voice interpreting crosses two languages, generally English and American Sign Language (ASL).
- **Sign language transliterators** facilitate voice-to-sign and sign-to-voice communication while working within one language, generally spoken and signed English.
- **Cued Speech transliterators** add cues to the restated spoken message for a person who is deaf or hard of hearing and restate or voice the message of the person who is deaf or hard of hearing and who may cue when he or she talks. (See Appendix C.)
- **Oral transliterators** silently repeat what a hearing person says in a manner that enables the person who is deaf or hard of hearing to understand it; they may also voice what the person who is deaf or hard of hearing says for hearing persons.

An interpreting professional may be qualified in one or more of these areas.

#### *Team Interpreting*

In intense communication settings, interpreters may need to work in pairs or on teams. Examples of settings during which more than one interpreter is needed include:

- classes in which language is highly technical;
- block scheduled classes;
- lectures;

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- videotape presentations;
- extended oral reading; and
- group interactions.

Sign language interpreters are at risk of physical injury associated with repetitive movements. Error rates also tend to increase when interpreters are fatigued. Scheduling interpreters to work in teams may help to reduce physical and cognitive stress in these situations.

### *Other Roles*

Sometimes educational interpreters are asked to perform activities in the school setting such as teaching sign language, sponsoring a sign language club, or acting as instructional aides for students who have special needs (e.g., cerebral palsy, ADHD). These additional assignments are only appropriate in the following situations:

- when the situations do not remove interpreters from their primary responsibilities;
- when the assignment does not conflict with the Code of Professional Conduct ([www.rid.org/coe.html](http://www.rid.org/coe.html)); and
- when interpreters are qualified to serve in these additional roles.

Careful deliberation of these “other roles” is necessary in ensuring that the interpreter’s primary role is not compromised.

Sometimes interpreters find that they have down time. Reassigned time is just as reasonable for educational interpreters as it is for other members of the school team. Important distinctions need to be made, however, between down time that occurs during tests or seatwork and inactive time that occurs, for instance, because of a student’s absence. Serving as a student’s instructor during seatwork is typically not

appropriate for an interpreter, yet being available and vigilant for student questions during a test or seatwork is appropriate. Serving as a student’s disciplinarian or parent liaison is also not appropriate for an educational interpreter. Reassignment to other duties during a student’s absence may be reasonable. Expectations of the interpreter’s responsibilities should be discussed before hiring and as roles and assignments change.

### *Qualifications*

The 2002 Virginia Regulations require educational interpreters to hold a VQAS Level III or above. (See 8 VAC 20-80-45 E.) The state recommended qualifications are:

- National Certification
  - Registry of Interpreters for the Deaf (RID) certification in interpreting (CI), in transliterating (CT), or in both (CSC, comprehensive skills certificate); oral transliterators hold an oral transliterating certificate (OTC).
  - NAD (National Association of the Deaf) certification at Level IV (Advanced) or V (Master) certificate.
  - National Interpreter Certification (NIC) as created by the merging of RID and NAD certifications.
  - TECUnit (Testing, Evaluation and Certification Unit) certification of TSC 3 (Competent) or TSC 4 (Expert) certificate in Cued Speech.
- Virginia Quality Assurance Screening (VQAS) of Level III or IV from the Virginia Department for the Deaf and Hard of Hearing (VDDHH) that ensures at least 80 percent accuracy (Level III) in interpreting or transliterating (sign, cued speech, or

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oral).

Many educational interpreters have not only met the state's regulations but also have coursework, certificates, or degrees in interpreting. They are skilled in the language and vocabulary of academics as well as in abstract thinking, and have a working knowledge of the developmental changes that occur in students in kindergarten through grade 12.

Recruiting and retaining qualified interpreters can be difficult, particularly in rural areas where interpreters are scarce, and possibly in urban areas where community jobs are more available.

Strategies to attract and retain interpreters include the following:

- valuing the educational and communication differences of students who benefit from interpreting services;
- developing a job description that includes all job responsibilities and expectations (e.g., interpreter's responsibilities when the student is absent);
- treating interpreters as members of the educational community;
- learning interpreters' ethical codes and working with the interpreters to avoid conflicts;
- working with interpreters for schedules that reduce physical stress that can lead to repetitive use injuries;
- including interpreters in the IEP meeting and instructional deliberations that focus on communication;
- fostering good working relationships with teachers by providing professional development regarding the effects of rapid oral reading rates, positioning and lighting issues, multiple speaker demands, and technical vocabulary demands;
- encouraging professional development

for interpreters with supportive services at the school and encouraging professional growth outside of the school setting;

- knowing Virginia's regulations and working collaboratively with interpreters, students, parents, teachers, and administrators to meet the regulations; and
- offering a salary scale with increases related to increased levels, certifications, and degrees and commensurate with teachers and/or other related service professionals when qualifications are met.

(See Appendix G.)

More information on educational interpreting can be found at the following Web sites:

- [www.rid.org/eduterp.html](http://www.rid.org/eduterp.html) - Registry of Interpreters for the Deaf;
- [www.vrid.org](http://www.vrid.org) - Virginia Registry of Interpreters for the Deaf;
- [www.nasdse.org](http://www.nasdse.org) - National Association of State Directors of Special Education;
- [www.special-ed-careers.org/pdf/interpreter.pdf](http://www.special-ed-careers.org/pdf/interpreter.pdf); and
- [www.ode.state.or.us/goups/supportstaff/specializedservices/deafblind/guidelinesfordeaf.pdf](http://www.ode.state.or.us/goups/supportstaff/specializedservices/deafblind/guidelinesfordeaf.pdf) - Oregon Guidelines: Educational Interpreting for Students who are deaf.

(See Substitute Personnel for information on substitute educational interpreters.)

### ***Oral Communication Facilitators***

A student who has a hearing loss may be able to access information and participate within the general education classroom using personal hearing aids, cochlear implants and/or FM devices and not require an educational interpreter, but may still need some communication support.

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This support may be provided in several ways, including the use of an oral transliterator or an oral communication facilitator. The role of communication facilitator may be performed by a paraprofessional (teaching assistant) or a professional staff member (teacher, interpreter). Caution should be taken in having the HI teacher in this role as this could impact the relationship between the student and the general education classroom teacher. An oral communication facilitator may provide support by:

- ensuring the function of sound field and/or personal FM systems in the classroom;
- assisting the student who is deaf or hard of hearing in locating the source of sound (speaker/teacher) and in maintaining preferential seating during a lesson;
- providing prompts to students to self-advocate for their hearing needs (e.g., a student who does not hear a classmate's answer should ask for a repetition);
- repeating and/or rephrasing spoken messages and/or putting spoken language in written/typed form as needed;
- gathering materials for previewing vocabulary, concepts and underlying language structures that may need to be pretaught;
- supporting IEP goals and objectives that exist in the general education classroom by collecting data (e.g., "Student's speech will be understood by peers and adults when given a visual cue in 4 out of 5 consecutive incidents"; or "The student will communicate using a complete sentence at least 2 times within a class period."); and/or
- encouraging hearing peers and adults

to use normal speech and language when interacting with the student who is deaf or hard of hearing in order to model appropriate oral communication behavior.

These supports by an oral communication facilitator may help the student learn how to function in the general education setting more independently.

### *Notetakers*

Notetakers may be especially helpful to students who are deaf or hard of hearing in upper elementary, middle, and high school general education programs. The IEP team should determine if there is a need for a notetaker. The need should be noted in the student's IEP.

A notetaker provides notetaking services in classroom settings where the student who is deaf or hard of hearing must sustain visual attention to the instructor, interpreter, or to audio-visual materials. While hearing students can listen to instruction and take notes simultaneously, a student who is deaf or hard of hearing cannot usually watch an interpreter, speechread a teacher, or view audio-visuals and take notes at the same time. Notetakers require training and orientation for their roles and responsibilities to the student who is deaf or hard of hearing and for the specific setting(s) in which they will be working. Training regarding the role of the notetaker may also be provided to teachers and other staff members to encourage cooperation and collaboration among all personnel working with the student.

Notetakers may be:

- volunteers (e.g., classmates, older students although school policy

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regarding need for parental permission must be followed);

- paraprofessionals (e.g., tutors, aides); or
- professional staff (e.g., teachers, interpreters).

Additionally, teachers may consider providing copies of notes to students.

It is recommended that notetakers have the following characteristics:

- competence in the mechanics of notetaking;
- knowledge of lesson/course content;
- ability to work cooperatively with classroom teachers;
- willingness to take direction;
- understanding of the impact of the hearing loss on the student's learning and literacy level; and
- willingness to perform ethically, nurture independence, and honor confidentiality of the student.

### Substitute Personnel

School divisions are encouraged to recruit and maintain a pool of qualified substitute personnel for absent HI teachers and educational interpreters in advance of need. This may present a challenge; however, the assignment of HI teachers and interpreters who are qualified should be priorities in the event of absences. Training should be provided for all substitutes involved with students who are deaf or hard of hearing.

The Virginia Department for the Deaf and Hard of Hearing (VDDHH) Interpreter Services Coordinator (800-552-7917 voice/TTY) may be contacted to schedule substitute interpreters. Interpreter rates may depend on the amount of advance notice given for scheduling. A minimum

of one week's notice is recommended. Use of video remote interpreters may be considered.

### Staff Development

Orientation and continuing education of direct and support staff serving students who are deaf or hard of hearing is necessary to ensure successful educational experiences. VDOE's Division of Special Education and Student Services and the Virginia Network of Consultants (VNOC) can recommend resources and presenters to conduct staff development.

The VDOE, in collaboration with the Virginia Department of Health, and the Partnership for People with Disabilities at Virginia Commonwealth University established the Virginia Network Of Consultants (VNOC) for Professionals Working with Children Who are Deaf or Hard of Hearing. The purpose of VNOC is to provide consultant services and training to professionals who work with students who are deaf or hard of hearing in school divisions and state operated programs in Virginia. It is designed to promote and enhance educational services for individual students or provide needed training for personnel. VNOC specialists, selected to represent all regions of the Commonwealth, have expertise in one or more areas as they relate to children who are deaf or hard of hearing, including:

- instructional strategies;
- communication methodologies;
- amplification needs;
- assistive technology; and
- assessment.

For more information about VNOC services, contact the VNOC Coordinator, Partnership for People with Disabilities at (804) 828-1342 or



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[www.vcu.edu/partnership](http://www.vcu.edu/partnership).

(See Appendix A.)

### Teacher Licensure

The VDOE has specific licensure requirements for teacher endorsement for students who are deaf or hard of hearing. (See Licensure Regulations for School Personnel, at 8 VAC 20-21-420.)

## TECHNOLOGY

### Hearing Aids

Children with hearing loss typically use amplification devices for both educational and personal use. Individuals requiring hearing aids are evaluated and fitted by licensed audiologists following examination by an otolaryngologist or an otologist (ear, nose and throat physician). Individuals younger than 18 years of age require medical clearance from an otolaryngologist/otologist before a hearing aid can be recommended, fitted and purchased. Virginia law requires that the purchaser of a hearing aid be offered a 30-day trial period. Prior to the end of this period, the hearing aid may be returned, and the purchaser may recoup the cost of the hearing aid minus costs associated with fitting, evaluation and reasonable return charges. Hearing aid manufacturers offer warranty periods on their products. In addition, loss and replacement insurance usually can be purchased. Dispensing audiologists typically sell hearing aids manufactured by several different companies.

Children with hearing loss are fitted with hearing aids which meet specific criteria, including appropriate gain, sound pressure levels, and frequency specifications. Additionally, fitting decisions involve

choosing digital or analog hearing aids and programmable options. Types of hearing aids include:

- behind-the-ear;
- in-the-ear;
- canal (fit in the ear canal);
- bone conduction: headband oscillator or bone anchored hearing aid (BAHA); or
- vibro-tactile.

Fitting choices are determined by the age of the child, type and degree of hearing loss, cosmetic concerns, ear anomalies, cost, as well as fitting requirements.

Hearing aids may be worn either monaurally (one ear) or binaurally (two ears) depending on the amplification needs of the child. They can be fit on individuals whose hearing losses range from mild to profound. (See Appendix B.)

There is insufficient data regarding the benefits of amplification for individuals with auditory neuropathy (dysynchrony) to warrant the use or nonuse of hearing aids.

Knowledge regarding the ability of the child to access speech auditorily with his or her hearing aid(s) is critical for educational planning and therapy goals. This ability should be detailed in an audiological evaluation.

A standard behavioral audiometric battery of tests may be comprised of:

- aided (i.e., using hearing aids/cochlear implants) and unaided pure tone responses across the frequency range;
- bone conduction responses;
- maximum comfort levels;
- speech reception and speech recognition scores, both aided and unaided; and
- tests for other complicating medical concerns such as outer or middle ear

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dysfunction.

Additional electrophysiological tests may be performed to confirm or support behavioral audiometric test results.

Special education law and regulations provide for routine checking of hearing aids. School divisions must ensure that hearing aids worn in school by children with hearing impairments, including deafness, are functioning properly (34 CFR § 300.113(a); 8 VAC 20-80-60 D). (See Appendix D.)

### Cochlear Implants

Students with severe-profound sensorineural hearing loss and those with a diagnosis of auditory neuropathy may be considered as candidates for cochlear implantation. A cochlear implant is a surgically implanted device which electrically stimulates the neural fibers of the inner ear or cochlea. A cochlear implant does not restore normal hearing but it is designed to provide sound detection that includes the speech range. Sounds are picked up by a microphone, coded by a speech processor and delivered to the implanted electrode array via a transmitter and receiver. External parts of a cochlear implant include the speech processor, transmitter, microphone and power source (batteries). The internal parts include the electrode array implanted in the cochlea and a receiver.

Children are evaluated for candidacy for cochlear implants at cochlear implant centers by assessing their auditory acuity, middle ear function, speech perception with hearing aids, medical history and developmental/cognitive status. Cochlear implants are usually not approved for children under 12 months of age. There

are currently three manufacturers of cochlear implants. Information can be obtained about cochlear implants by searching the Web sites of each manufacturer:

- [www.Medel.com](http://www.Medel.com)
- [www.advancedbionics.com](http://www.advancedbionics.com)
- [www.cochlear.com](http://www.cochlear.com)

Cochlear implant centers in Virginia are located at the University of Virginia Health Systems (Charlottesville), Virginia Commonwealth University Medical Center (Richmond) and Children's Hospital of The King's Daughters (Norfolk).

As with hearing aids, knowledge of the auditory benefit derived from a cochlear implant provides important information necessary for determining educational goals and objectives. Audiological information important for educational purposes includes pure tone and speech responses with the implant as well as information about mapping, mapping changes and coding strategies. There should be regular communication between the family and all professionals involved in the student's aural habilitation. Family follow-up with the implant center for device maintenance and upgrades, as well as map adjustment, is an ongoing expectation of the implant team throughout the student's school career.

For a student with a surgically implanted medical device who is receiving special education and related services, special education law and regulations provide for routine checking of external components of surgically implanted medical devices. However, a school division is not responsible for the post-surgical maintenance, programming, or replacement of the medical device that has

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been surgically implanted (or of an external component of the surgically implanted medical device) [34 CFR § 300.113(b)(2)].

Based on the IDEA 2004 and its implementing federal regulations, school divisions are not responsible for the optimization, maintenance or replacement of surgically implanted devices [34 CFR § 300.34(b)(1)]. However, they should do routine checking of the external components to ascertain if the devices are functioning properly. (See Appendix D.) Thus school divisions may replace batteries during the school day or have capable students replace their batteries in a cochlear implant to the same extent that they would for hearing aids.

### **Auditory Brainstem Implants**

Auditory brainstem implants (ABI) may be used by individuals with specialized medical conditions, such as neurofibromatosis. An ABI is a device which bypasses the cochlea and auditory nerve to transmit sound directly to the brainstem. The device provides access to sound; however, the prognosis for ABI users to understand speech varies from that of individuals who use cochlear implants or hearing aids.

### **Assistive Listening Devices**

In addition to personal hearing aids and cochlear implants, students with hearing loss sometimes benefit from assistive listening devices to supplement and support their personal amplification, particularly in the classroom setting. Classrooms with hard surfaces, uncarpeted floors, windows without curtains, student noise and teachers who are positioned at less than optimal distances from students

who are deaf or hard of hearing comprise a challenging listening environment. (See Facilities and Spaces.)

FM systems, sometimes called auditory trainers, may reduce some of the difficulties that a student who is deaf or hard of hearing faces in the classroom setting by improving the signal-to-noise ratio. Typical systems require the teacher/speaker to wear a small transmitter with a microphone, while the student may use one of several devices which receive the spoken input wirelessly. This enables the student to hear the teacher's voice at a consistent volume regardless of the teacher's location in the classroom. FM systems and amplification options include:

- **Body or Ear Level FM system:** The unit is worn in lieu of a student's personal hearing aid and functions as both an FM system and a personal amplification device. A teacher transmitter is used in conjunction with the FM system. Individual units must be adjusted to the student's hearing loss in the same way that a hearing aid is fitted. An audiologist should determine the settings for the units in order to ensure appropriate fit.
- **Direct Audio Input:** An audio shoe, also called a "boot," attaches to the student's hearing aid and is linked to an FM receiver. The signal from the teacher transmitter is directed through the hearing aid from the FM receiver.
- **Miniature FM Receiver:** More recently developed FM systems also use an audio shoe or other direct connection to a hearing aid or a cochlear implant. Like other FM systems, a transmitter with a microphone is used in conjunction with the wireless receiver in order for the student to access the speaker's voice.

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- **Classroom Amplification Systems:** These systems which are also called sound field systems are composed of speakers of various types (ceiling mounted, wall mounted, or desktop) along with a transmitter and microphone. The voice of the speaker is amplified throughout the classroom or to an individual speaker on a student's desk. These systems are typically used with students who have less severe hearing losses, cochlear implants or auditory processing disorders. Classroom amplification systems are available using specific FM frequencies or infrared technology.

Manufacturers' representatives offer significant support to school divisions in purchasing and maintaining FM equipment. Annual inspection, repair and electroacoustic analysis of FM systems are typically provided through service contracts or on a parts and labor basis by manufacturers.

### *Checking Assistive Listening Devices*

Personal hearing instruments and FM equipment in the school setting require ongoing monitoring. School staff and the student who is deaf or hard of hearing, as appropriate, with the support of an audiologist, should be instructed in checking hearing aids, cochlear implants and FM systems to ensure that they are functioning properly. State and federal regulations require that amplification devices used during the school day function properly. Best practice dictates that assistive listening devices be checked daily. (See Appendix D.)

## Assistive Technology

Students who are deaf or hard of hearing may benefit from the use of additional assistive technology which supports the classroom learning environment. The use of assistive technology should meet the specific needs of a student as determined by the IEP team. Devices may include:

- **Visual Safety /Alerting Devices:** Alarm clocks, smoke/fire alarms, telephone and doorbells with visual alerting signals designed to aid individuals who are deaf or hard of hearing in independent living skills and increase safety in the school and home environment.
- **Closed Caption Media:** Closed captions are generally available via videotapes, DVDs, CDs, and local television programming. Closed captions provide readable text while audible speech is presented on televised/taped programs. Free educational media are available for loan in all content areas and for all grade levels through the Described and Captioned Media Program (DCMP) at [www.dcmp.org](http://www.dcmp.org).
- **Real Time Captioning:** Some students with hearing loss may use real time captioning in the classroom. Real time captions are created as an event takes place. A captioner (often someone trained as a court reporter or stenographer) may use a stenotype machine with text relay to a computer. The student is able to read text concurrently as the teacher lectures. One type of real time captioning technology uses a computer with specialized software. A trained individual transcribes classroom lecture by keying it into a computer which is received by the student's computer. The availability of this

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technology varies and requires that the student be able to read sufficiently well to benefit from the service.

- **Telecommunication Device for the Deaf/Text Telephone (TDD/TTY):** This device allows students who are deaf or hard of hearing access to telephone use. A TDD/TTY uses text-to-text communication as well as speech-to-text. Telephones may also be purchased which use amplified handsets.
- **Telephone Relay Services:** Telecommunication access may be achieved through telephone relay, videophone relay and/or computer camera/Web cam technology and more. These enable individuals who are deaf or hard of hearing and those who are hearing to communicate through remote interpreters and/or text transcribers. Videophone and Web cam systems also allow individuals to see one another, making speechreading, visual cues and direct sign communication a possibility.
- **Video Remote Interpreting:** VRI, also known as distance interpreting, may be considered if an on-site interpreter is not available. A two-way internet video connection allows the participants to see and hear the interpreter. The interpreter, in turn, can see the participants who are signing and hear participants who are voicing. A computer Web cam and a high speed broad band connection are needed.

Advances in communication technology continue to be made. These include:

- speech to text;
- speech/text to video sign language;
- speech/text to computer generated voice; and

- computer generated signing avatars.

In addition to the assistive technology devices and services listed above, the IEP team may determine other appropriate assistive technology as educationally necessary for the individual student. Federal and state regulations define an assistive technology device as “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 a child with a disability” (8 VAC 20-80-10). The 2006 federal regulations add that the term “does not include a medical device that is surgically implanted or the replacement of such device” (34 CFR § 300.5).

Current information on assistive technology may be found at the Virginia Assistive Technology System Web site ([www.vats.org](http://www.vats.org)), through the Virginia Department for the Deaf and Hard of Hearing (VDDHH) ([www.vddhh.org](http://www.vddhh.org)), and through the Virginia Department of Education’s Training and Technical Assistance Centers ([www.ttaonline.org](http://www.ttaonline.org)).

## CURRICULUM AND INSTRUCTION

Instruction of students who are deaf or hard of hearing should include consideration of the following:

- access to the general curriculum with appropriate accommodations and modifications;
- facilities that are acoustically and visually appropriate;
- instructional strategies that are effective with students who are deaf or hard of hearing;
- special literacy needs;

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- expanded curriculum options; and
- a continuum of transition services.

### Access to the General Curriculum

It is expected that all students enrolled in public school divisions of the Commonwealth of Virginia receive instruction to achieve competency in English, mathematics, science, history/social science, technology, the fine arts, foreign language, health/physical education, and driver's education. This includes students with disabilities. The Virginia Standards of Learning (SOL) provide a framework in the four core areas of English, mathematics, science and history/social science, as well as other courses, and detail the specific knowledge and skills necessary to meet these standards.

Students who are deaf or hard of hearing must have access to the general education curriculum and receive instruction in the same standards-based curricular content as their hearing peers. The IEP delineates the skills and supports that a student needs to access the general education curriculum.

For a student who is deaf or hard of hearing, communication and linguistic needs should be given primary consideration when developing the IEP. This includes communication with peers and proficiency of staff in the student's communication mode and language. The IEP of a student who is deaf or hard of hearing should address:

- how the student presently communicates (mode and skill level);
- goals and objectives for receptive and expressive language development; and
- supports to accommodate communication.

A tool called a "communication plan" may be used by the IEP team to assist in determining which strategies, services, accommodations and/or modifications are needed to:

- support the student's language/communication development;
- access the general education curriculum; and
- support academic skill development. (See Appendix F.)

### Facilities and Space

Beginning in June 1977, accessibility standards for new construction or renovations were enacted to ensure equal access for persons with disabilities to buildings and facilities. All facilities constructed prior to this time are considered "Readily Accessible." In the early 1990s, standards that addressed newer construction were enacted and are more commonly known as Americans with Disabilities Act (ADA) standards and Uniform Federal Accessibility Standards (UFAS). A chronological listing of these standards can be found below, along with links to the full documents.

- Readily Accessible (construction or renovation initiated before 6/4/77): A recipient shall operate its program or activity so that when each part is viewed in its entirety, it is readily accessible to disabled persons (34 CFR § 104.22).
- American National Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped- ANSI (for construction or renovation initiated on or between 6/4/77 through 1/17/91). These standards are available for purchase at

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[www.webstore.ansi.org/ansidocstore/product.asp?sku=ICC%2FANSI+A117%2E1%2D2003](http://www.webstore.ansi.org/ansidocstore/product.asp?sku=ICC%2FANSI+A117%2E1%2D2003).

- Uniform Federal Accessibility Standards - UFAS (for construction or renovation initiated on or after 1/18/91 through 1/27/92). [www.access-board.gov/ufas/ufas-html/ufas.htm](http://www.access-board.gov/ufas/ufas-html/ufas.htm).
- ADA Standards for Accessible Design (for construction or renovation on or after 1/27/92). [www.access-board.gov/adaag/ADAAG.pdf](http://www.access-board.gov/adaag/ADAAG.pdf).

### *Elevators*

Prior to January 18, 1991, there were no accessibility standards for visual elevator signals for individuals with hearing loss. However, facilities in existence prior to this date and in receipt of federal monies through Title II of the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act of 1973 (Section 504) must comply with the regulations under each Act in making their facilities accessible (Section 504, 34 CFR §104.21-§104.22; ADA, 28 CFR §35.149-§35.150).

Both ADA and UFAS (4.10.4) standards require that visible and audible signals be provided at elevator lobby entrances to indicate which car is answering a call. Specifics regarding the allowable height, exact placement and dimensions of visible elevator signals can be found in the ADA Standards at [www.access-board.gov/adaag/ADAAG.pdf](http://www.access-board.gov/adaag/ADAAG.pdf) and UFAS at [www.access-board.gov/ufas/ufas-html/ufas.htm](http://www.access-board.gov/ufas/ufas-html/ufas.htm). ADA and UFAS (4.10.11) also reference the required illumination level at elevator car controls. Additionally, elevators must have floor buttons with visual indicators to show when each call is registered, and these indicators must be extinguished when each call is answered

(ADA and UFAS 4.10.12). Inside elevator cars, it is required that a visual car position indicator be provided above the car control panel or over the door to show the position of the elevator. It is also required that corresponding numerals illuminate as the car passes or stops at a floor served by the elevators (ADA and UFAS 4.10.13).

### *Visual Alerting/Safety Systems*

Prior to June 4, 1977, there were no accessibility standards established in regard to visual and/or audible warning systems. However, facilities in existence prior to this date and in receipt of federal monies through ADA and/or Section 504 must comply with the regulations under each Act in making their facilities accessible. (Section 504, 34 CFR §104.21-§104.22; ADA, 28 CFR §35.149-§35.150)

Beginning in 1977, accessibility standards were developed requiring that audible warning signals be accompanied by simultaneous visual signals for the benefit of those with hearing disabilities (ANSI 5.12.1;

[www.webstore.ansi.org/ansidocstore/product.asp?sku=ICC%2FANSI+A117%2E1%2D2003](http://www.webstore.ansi.org/ansidocstore/product.asp?sku=ICC%2FANSI+A117%2E1%2D2003) ). Newer accessibility standards continue to require that emergency warning systems have audible and visual alarms [ADA 4.1.3 (14) and UFAS 4.1.2 (13)]. More specifically, ADA 4.28.1 states that visual signal appliances must be provided in buildings and facilities in restrooms and any other general usage areas, such as meeting rooms, hallways, lobbies, and any other area for common use. ADA further states that visual alarm signal appliances be integrated into a building or facility's alarm system (ADA 4.28.3). Additional information regarding the photometric and location requirements

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of visual alarms can be found at [www.access-board.gov/adaag/ADAAG.pdf](http://www.access-board.gov/adaag/ADAAG.pdf). UFAS (4.28.3) requires that electrically powered internally illuminated emergency exit signs flash as a visual emergency alarm in conjunction with audible emergency alarms.

### *Telephones*

Prior to June 4, 1977, there were no accessibility standards established in regard to public telephones. However, facilities in existence prior to this date and in receipt of federal monies through Title II of the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act (Section 504) must comply with the regulations under each Act in making their facilities accessible. (Section 504, 34 CFR §104.21-§104.22; ADA, 28 CFR §35.149-§35.150).

ANSI (5.8) states that an “appropriate number” of public telephones should be made accessible to and usable by individuals with physical disabilities. These telephones should be equipped for those with hearing loss and so identified with instructions for use. UFAS [4.1.2 (16) (a)(b)] and ADA [4.1.3 (17)(a)(b)] require that if telephones are provided for use by the public, then they must be accessible and equipped with volume control. Specifics regarding the number of telephones required to be accessible to persons who are deaf or hard of hearing are outlined in ADA 4.1.3 17 (a). UFAS and ADA (4.31.5) also require that these telephones be equipped with a receiver that generates a magnetic field in the area of the receiver cap (hearing aid compatible). ADA 4.31.5 (2) addresses specifics regarding the minimum and maximum volume control levels allowed.

### *Auditoriums/Theaters*

There were no accessibility standards for assistive listening systems prior to January 18, 1991. However, facilities in existence prior to this date and in receipt of federal monies through ADA and/or Section 504 must comply with the regulations under each Act in making their facilities accessible. (Section 504: 34 CFR §104.21-§104.22, Title II: 28 CFR §35.149-§35.150)

In areas where audible communications are integral to the use of the space (e.g., concert and lecture halls, playhouses and movie theaters, meeting rooms, etc.), the ADA standards specify that assembly areas that accommodate at least 50 persons, or have audio-amplification systems, and have fixed seating, shall have a permanently installed assistive listening system complying with ADA 4.33 [4.1.3 (19)(b)]. UFAS guidelines require that an assistive listening system be installed in assembly areas with audio-amplification systems to assist no less than two persons with a severe hearing loss [4.1.2 (18)(b)]. Signage complying with applicable provisions of ADA 4.30.7 (4) shall be installed to notify deaf or hard-of-hearing persons of the availability of a listening system. Additionally, ADA 4.1.3 (19)(b) addresses other assembly areas that do not fit the abovementioned criteria.

Requirements for listening systems that serve individual fixed seats are outlined in ADA and UFAS 4.33.6. For specifics regarding requirements for assistive listening systems, please refer to the ADA standards at [www.access-board.gov/adaag/ADAAG.pdf](http://www.access-board.gov/adaag/ADAAG.pdf) and UFAS at [www.access-board.gov/ufas/ufas-html/ufas.htm](http://www.access-board.gov/ufas/ufas-html/ufas.htm).



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### *Acoustic and Visual Characteristics*

“A well-managed visual and auditory environment is vital for all students who are deaf or hard of hearing” (NASDSE, 2006, p. 28). Attention must be given to the acoustic and visual characteristics of classrooms where students who are deaf or hard of hearing receive instruction.

Hearing aids and cochlear implants may increase a student’s access not only to speech, but all sounds, including background noise such as sounds from heating and air conditioning systems, moving furniture, chairs scraping tiled floors, shuffling feet, movement of books, and pages turning. Noise, reverberation levels and extraneous or interfering sounds should be controlled in order to minimize interference with a student’s ability to access auditory input for communication and learning. Noise reduction can be achieved in several ways. Schools may consider the following:

- Locate classrooms for students who are deaf or hard of hearing in a quiet area of the building away from external noise sources (e.g., street traffic, playgrounds, gymnasium and cafeteria).
- Avoid open classroom settings, or learning areas without walls in which more than one class shares space.
- Install sound absorbing material such as acoustical ceiling tiles on classroom ceiling.
- Install carpeting with padding in the classroom (1/4 inch pile reduces noise yet permits wheelchair mobility).
- Ensure that heating/ventilation systems are operating properly; heating/cooling ducts may be lined with acoustical materials or baffles.
- Replace fluorescent lighting systems regularly to avoid buzzing.

- Lubricate fans and electrical motors or otherwise ensure they operate quietly.
- Place sound absorbing material such as acoustical paneling or cork board on classroom walls. Avoid painting acoustical tiles and panels or covering panels with non-sound absorbing materials such as posters. This reduces or may prevent sound reduction entirely.
- Hang window treatments such as acoustical drapes or acoustically treated Venetian blinds over windows to absorb sound.
- Place pads/rubber tips on chair, table and desk legs to reduce noise. Tennis balls on the bottoms of chair and desk legs are effective noise reducers, but caution must be taken with regard to latex and other allergies.

In addition, students who are deaf or hard of hearing may rely on vision extensively in the educational setting. Therefore, good lighting is essential. Visual considerations include:

- non-glare lighting;
- student seating so light is on the speaker and/or interpreter to whom they are attending; and
- curtains/blinds to reduce glare from outside sources.

### **Instructional Strategies and Methodologies**

In general, the instructional strategies that lead to the academic success of students who are deaf or hard of hearing are comparable to those used with all students. As with all students:

- A lesson should begin with a focus activity that immediately engages the students in learning. This activity should spark the interest of the student and create a desire to attend to the

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lesson.

- The measurable, behavioral objective of the lesson related to the Standards of Learning (SOL) and/or IEP goal should be clearly stated to students.
- All new knowledge should be attached to prior knowledge.
- Development of vocabulary should occur before and during every lesson.
- The instructional procedure should include a logical sequence of steps that includes provision of demonstration/modeling of the concept.
- An opportunity should be provided for guided practice of the concept aligned with the evaluation format that will be used to assess mastery of the concept. The teacher should give immediate corrective feedback.
- Lessons should conclude with a summary of the concept, by the students whenever possible.

While the above strategies are used for all students, consideration of the unique needs of students who are deaf or hard of hearing should guide instruction.

### ***Incidental Learning***

Studies in developmental psychology show that much of what young children know, they learned incidentally. Examples of incidental learning include overhearing conversations of others and listening to television and radio and more. Students who are deaf or hard of hearing often miss the incidental learning opportunities around them, due to their difficulty in hearing. For this reason, many concepts and words not taught formally to hearing students must be explicitly emphasized or taught to students who are deaf or hard of hearing.

### ***Developing Background Knowledge***

All conceptual knowledge is organized into schemata, memory structures that are the framework by which knowledge and experiences are interrelated. For new information to be understood, schema from the child's memory must be activated (Schirmer, 2000). While hearing children often come to school with intact background knowledge (schemata) onto which new knowledge can build, many children who are deaf or hard of hearing do not. Without adequate background knowledge, new concepts cannot be adequately assimilated. In order to promote academic success, it is critical to develop the background knowledge of a student who is deaf or hard of hearing before new knowledge is presented. Some ways to build background knowledge include:

- group sharing of experiences;
- family involvement;
- field trips;
- video/DVD presentations;
- computer software;
- internet searches;
- direct instruction;
- hands-on activities; and
- role playing.

Strategies for ongoing language development must be included in every instructional lesson for students who are deaf or hard of hearing.

### ***Family Involvement***

Family involvement is an important part of the academic program for all children and is especially important for the family of a student who is deaf or hard of hearing. If families can learn to communicate effectively with their children, parents can expose them to

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experiences that can build the background knowledge necessary to support academic growth and eliminate the gaps resulting from lack of exposure to incidental language. School divisions should consider whether family members need instruction in the communication method of their choice. Communication competence within the family will be an asset for building strong vocabulary skills and promoting academic success. “If necessary, parents should be provided support and training to assist their children in achieving their IEP goals” (NASDSE, 2006, p.52). (See Family Education and Intervention.)

### *Direct Instruction*

Direct instruction of a concept should include a multi-sensory approach that provides hands-on involvement for students who are deaf or hard of hearing with many examples and non-examples. Concepts can be mastered if they become meaningful to students and relevant to their lives. Students who are deaf or hard of hearing need the opportunity to practice concepts through self expression, verbal (or signing) rehearsal, and refinement of ideas (Stewart and Kluwin, 2001). Appropriate pacing of instruction, monitoring of student responses for accuracy, and ongoing corrective feedback are recommended to improve concept mastery.

Effective instruction includes a visual representation of the concept which can be paired with verbal and/or signed explanation by students. Giving students access to appropriate technology, Web sites and computer programs will enable them to find visual resources. As many as 40 percent of children with a hearing loss have an additional disability. (Paul and

Quigley, 1990; Schildroth and Hotto, 1993). To meet the needs of a student who is deaf or hard of hearing with additional cognitive challenges, a teacher should:

- control the difficulty or processing demands of given tasks;
- sequence the steps of learning in a concrete manner;
- segment learning in obtainable chunks;
- provide more drill and repetition;
- practice and review;
- use direct questioning and response; and
- seek help from other professionals with expertise in the additional disability.

### *Differentiated Instruction*

Both inclusive and self-contained classrooms for students who are deaf or hard of hearing may include students with several different ability levels. Therefore, teachers must be equipped to provide differentiated instruction to meet the needs of a wide range of students while making optimal use of instructional time. Differentiated instruction is student-centered, provides quality instruction through a mix of whole class, group and individual instruction and offers multiple approaches to content, process and product (Tomlinson, 2001).

The SOL Enhanced Scope and Sequence PLUS (ESS+) resource developed by the VDOE provides suggestions for lesson plans and activities to deliver instruction to students with disabilities and/or limited English proficiency. Access ESS PLUS lessons at [www.ttaonline.org](http://www.ttaonline.org). On the tab marked “SOL Enhanced,” each of the four core subject areas provides information under Instructional Strategies for Special Populations and links users to

## Guidelines for D/HH

Instructional Strategies for Students who are Deaf or Hard of Hearing.  
(See Appendices H and I.)

### *Authentic Assessment*

Ongoing authentic assessments should be part of all instruction for students who are deaf or hard of hearing. While standardized tests provide valuable information, the information gathered by the teacher about the student's performance in class should guide the educational process. Monitoring of student behavior, student responses and overall student performance should be an ongoing process throughout all lessons. Teachers should gather information about a student's abilities, interests, challenges, achievement and knowledge base and use this information to plan appropriate instructional strategies to match individual learning style, encourage a student to work to potential, and promote mastery of concepts.

### **Literacy**

Language is a prerequisite for literacy. Ideally, students enter the school setting from language-rich environments in which there is early and consistent exposure to accessible language and to print. However, more often than not, students who are deaf or hard of hearing begin school with limited language abilities. Literacy learning and the development of reading and writing skills is often challenging for students who are deaf or hard of hearing.

Many researchers have concluded that there is a strong relationship between language, regardless of communication methodology (e.g., ASL, oral English, Cued Speech) and the development of

literacy skills (French, M., 1999; Perfetti, C. and Sandak, R., 2000). A basic tenet of literacy is that to become a reader, one must know the language one is learning to read. Yet, many students who are deaf or hard of hearing are faced with trying to develop a language while simultaneously learning to make sense of print. Consequently, lack of English language skills is seen in their written language.

It is important to consider a student's strengths and needs through baseline and ongoing assessment of language and literacy skills. Suggested literacy assessments include:

- adaptations of baseline, benchmark and checklist tools available from published developmental reading programs;
- analysis of observed/videotaped sessions of students reading aloud/signing (Note: No studies were found to compare fluency assessments of oral readers with those of signers, but many teachers of students who are deaf and hard of hearing believe that comparable measures can be made with signing students.); and
- use of running records and miscue analysis.

The National Reading Panel (2000) identified the five components of reading as:

- phonemic awareness;
- phonics;
- fluency;
- vocabulary; and
- comprehension.

For students whose hearing aids or cochlear implants enable them to access and process speech as hearing students do, literacy teaching strategies may follow those used with hearing students.

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Development of phonemic awareness and instruction in phonics using multi-sensory approaches should be included in the literacy program of students who are deaf or hard of hearing. (See Appendices H and I).

Those students who are deaf or hard of hearing and do not auditorily receive speech sounds adequately may need to use other strategies. The bilingual-bicultural philosophy of teaching uses ASL to teach and introduces English as a second language through print. Whole language strategies may be used with students in combination with other strategies as well.

### ***Comprehension of Text***

Integrating vocabulary instruction into every lesson across all content areas is critical for the success of students who are deaf or hard of hearing. Areas that may be challenging include words with multiple meanings, figurative language, inferences, metaphors, similes, idioms, and slang, all of which may need to be taught directly. (See Incidental Learning.)

Part of the task of teaching words that have multiple meaning to students who communicate primarily in sign language is realizing that there are often multiple signs for one English word (e.g., *run* has a wide range of meanings and many different signs would be used for *run for office*, *run a machine*, *run in stockings*, *runny nose*, *water running*, *run-off*, *run around the track*, *give me the run around*, *run down*, *run up a bill*). However synonyms in English often share the same sign (e.g., signing the words *wonderful*, *terrific*, and *great*).

Figurative language is often challenging to students who are deaf or hard of hearing

because the word or phrase does not carry the meaning of the word or words within the phrase. This creates communicative ambiguity (Paul, 1998). For example, the expression, “his eyes were bigger than his stomach,” has a different meaning than the words convey literally. Figurative language, similes, metaphors and slang should be explicitly taught.

Reading comprehension requires students to move beyond the words on the page to the underlying meaning that is critical to understanding a story or passage. To be successful at comprehending the underlying meaning of a passage, students must possess an understanding of the way typical text is structured, have background knowledge of the topic, and have a clear understanding of the vocabulary within the passage. Many students who are deaf or hard of hearing have limited background knowledge and limited vocabulary. ASL has its own syntax and grammar that differs from English and students may not be able to hear English constructs daily. Therefore, students may have difficulty comprehending the meaning of a sentence expressed in English. This may be compared to a hearing student trying to read a passage in a Russian text after studying the grammar for several years if he or she was never able to hear the teacher or Russian conversation, only memorize the rules. (See Appendix I.)

### **Expanded Curriculum Options**

The National Association of State Directors of Special Education (NASDSE) has recommended that from preschool through postsecondary school, students who are deaf or hard of hearing should have educational objectives comparable to hearing students. In addition to the requirements of general education,

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NASDSE recommends adding the following components:

- communication skills for families (See Family Education and Intervention. See also Family Involvement.);
- Deaf Studies, including ASL; and
- special transition planning
  - social skills and
  - self-advocacy skills.

### *Deaf Studies*

A program of Deaf Studies is suggested for students who are deaf or hard of hearing at all educational levels. A study of age-appropriate topics from hearing and hearing loss to the Deaf community and Deaf culture may provide students who are deaf or hard of hearing an opportunity to develop self-identity and acceptance. Suggested topics include:

- the process of hearing;
- causes of hearing loss;
- communication modes;
- amplification devices;
- assistive and technological devices;
- Deaf heritage and culture;
- the study of ASL as a language;
- organizations and publications for the Deaf; and
- literature related to Deafness.

It is important to allow children who are deaf or hard of hearing opportunities to meet other children and adults who are deaf or hard of hearing. Individuals can be invited to the school as guest speakers, or field trips for content areas can be arranged at places where Deaf adults work.

The Virginia Department for the Deaf and Hard of Hearing (VDDHH) is Virginia's state agency designated to provide resources for and serve persons who are deaf or hard of hearing, their families, and

professionals who serve them. An extensive lending library is available at 800-552-7917 (voice or TTY/relay) or [www.vddhh.org](http://www.vddhh.org)

The Virginia Department of Rehabilitative Services (DRS) can offer suggestions regarding speakers and appropriate community locations where adults who are deaf are employed.

[www.vadrs.org/essp/dhh.htm](http://www.vadrs.org/essp/dhh.htm).

(See Appendix J.)

### **Secondary Transition**

During transition planning, the IEP team begins to address postsecondary plans. This is the time when it may be necessary to examine the need for college preparatory or career/technical education in a student's program as well as appropriate referrals to adult service programs. Adult service programs are eligibility-based and not entitled, and they often have financial participation criteria. The IEP team may invite representatives from adult service agencies to an IEP meeting for a student who is deaf or hard of hearing. Appropriate agencies may include:

- Community Services Boards;
- Independent Living Centers;
- Department of Rehabilitation Services (DRS); and
- Virginia Department for the Deaf and Hard of Hearing (VDDHH).

Referral to DRS should be made no later than 3 years prior to the expected graduation or exit date. Most adult service agencies are moving toward early identification of potential referrals.

Students who are deaf or hard of hearing may be included in career exploratory programs at the middle school level.

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Students at the high school level should receive age-appropriate transition assessments. There are regional and local assessment center teams that can complete comprehensive assessments. The IEP team should decide what assessments are needed by a student and should plan the transition services, including courses of study to effectively develop the student's interests and abilities. Vocational programming may include the need for services/training in:

- independent living skills;
- functional mathematics applications;
- legal rights and responsibilities as a citizen;
- mobility (transportation, driver's education);
- personal care (grooming, nutrition, first aid and safety);
- social interaction skills between individuals who are deaf or hard of hearing and those who are hearing;
- career exploration (job shadowing, informational interviewing);
- job seeking skills (applications and interviewing skills for summer employment opportunities);
- self-determination and self-advocacy;
- functional reading and writing skills for successful transitioning into employment or postsecondary options; and
- assistive technology (available through VDDHH).

Transition resources for students who are deaf or hard of hearing and individuals working with them include, but are not limited to the following:

- **The Postsecondary Education Rehabilitation Transition Program (PERT)** is a collaborative program of VDOE and DRS that provides vocational/technical training and a continuum of transition services for

youth with disabilities.

[www.wvrc.net/menuroot/VR-pert-transition-services.htm](http://www.wvrc.net/menuroot/VR-pert-transition-services.htm).

- **The Virginia Department of Rehabilitative Services (DRS)** provides a list of the Regional counselors for the deaf (RCD) who work with individuals who are deaf and hard of hearing. [www.vadrs.org/essp/dhh.htm](http://www.vadrs.org/essp/dhh.htm). A DRS brochure that answers questions about transitioning is available at [www.vadrs.org/downloads/transitioneservices.pdf](http://www.vadrs.org/downloads/transitioneservices.pdf). (See Appendix K.)
- **Woodrow Wilson Rehabilitation Center: Special Populations:** [www.wvrc.net/menuroot/VR-deaf-hard-of-hearing-services.htm](http://www.wvrc.net/menuroot/VR-deaf-hard-of-hearing-services.htm).

Note: Students must go through a DRS regional counselor to be approved for PERT, Woodrow Wilson Rehabilitation Center and/or other DRS sponsored services.

- **The Virginia Department of Education Division of Special Education and Student Services:** [www.doe.virginia.gov/VDOE/sped/transition/vocass.shtml](http://www.doe.virginia.gov/VDOE/sped/transition/vocass.shtml).
- **The Postsecondary Education Programs Network (PEPNet)** is the national collaboration of the four regional postsecondary education centers for individuals who are deaf and hard of hearing. The centers are supported by contracts with the U.S. Department of Education, Office of Special Education and Rehabilitative Services. The goal of PEPNet is to assist institutions of higher education across the nation to attract and effectively serve individuals who are deaf or hard of hearing. Resources for students include an online transition program and transition resources at [www.pepnet.org](http://www.pepnet.org).

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- **National Technical Institute for the Deaf - Explore Your Future (EYF)** is a week-long transition education program for high school students who are deaf or hard of hearing and who are entering their senior year in high school.  
[www.ntid.rit.edu/prospective/eyf.php](http://www.ntid.rit.edu/prospective/eyf.php).
- **Laurent Clerc National Deaf Education Center, Transition Page** has an informative Frequently Asked Questions section.  
[www.clerccenter.gallaudet.edu/Transition/index.html](http://www.clerccenter.gallaudet.edu/Transition/index.html).
- **Department of Labor – Career Voyage:**  
[www.careervoyages.com/students-wheredoistart.cfm](http://www.careervoyages.com/students-wheredoistart.cfm).
- **Virginia College Quest:**  
[www.vacollegequest.org/](http://www.vacollegequest.org/).
- **Virginia Career View:**  
[www.vaview.vt.edu/index](http://www.vaview.vt.edu/index).



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**APPENDICES**

- A. Resources
- B. Hearing Loss (Types, Degree, Age of Onset)
- C. Language and Communication Options
- D. Suggested Visual Inspection and Listening Check for Hearing Aids, Cochlear Implants, FM Systems
- E. Assessment
  - Description of Tests and Assessment Procedures Used in Educational Settings
  - Suggested List of Assessment Tools
- F. Sample Communication Plan
- G. Strategies for Recruiting Qualified Educational Interpreters
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**Appendix A  
Resources**

*State Agencies*

**Virginia Department of Education  
Office of Special Education and Student Services**

P.O. Box 2120  
101 N. 14<sup>th</sup> Street  
Richmond, Virginia 23218-2120  
(800) 422-2083 voice  
(800) 422-1098 TTY  
[www.doe.virginia.gov/sess](http://www.doe.virginia.gov/sess)

**Virginia Department of Education  
Specialist for Deaf and Hard of Hearing Services**

P.O. Box 2120  
101 N. 14<sup>th</sup> Street  
Richmond, Virginia 23218-2120  
(800) 422-2083 voice  
(800) 371-4059 voice  
(804)-225-2233 TTY  
[www.doe.virginia.gov/sess](http://www.doe.virginia.gov/sess)

**Virginia Department of Education  
Director of State Schools and State Operated Programs**

P.O. Box 2120  
101 N. 14<sup>th</sup> Street  
Richmond, Virginia 23218-2120  
(804) 225-3161 voice  
[www.doe.virginia.gov](http://www.doe.virginia.gov)

**Superintendent's Office  
Virginia School for the Deaf, Blind and Multi-Disabled at Hampton**

700 Shell Road  
Hampton, Virginia 23661  
(757) 247-2050 voice/TTY  
(800) 666-0041 voice  
[www.vsdmbh.virginia.gov](http://www.vsdmbh.virginia.gov)

**Superintendent's Office  
Virginia School for the Deaf and the Blind at Staunton**

P.O. Box 2069  
Staunton, Virginia 24401  
(540) 332-9000 voice/TTY  
(800) 522-8732 voice  
[www.vsdbs.virginia.gov](http://www.vsdbs.virginia.gov)

## Guidelines for D/HH

**Virginia Department of Education Training and Technical Assistance Centers**  
[www.ttaonline.org](http://www.ttaonline.org)

### *Other State Agencies*

#### **Virginia Department for the Deaf and Hard of Hearing**

1602 Rolling Hills Drive  
Ratcliffe Building, Suite 203  
Richmond, Virginia 23229-5012  
(800) 522-7917 voice/TTY  
(804) 662-9502 voice/TTY  
[www.vddhh.org](http://www.vddhh.org)

#### **Virginia Early Hearing Detection and Intervention Program**

##### **Virginia Department of Health**

109 Governor Street, 8<sup>th</sup> Floor  
Richmond, Virginia 23219  
(866) 493-1090  
VA Relay 7-1-1 or 1-800-828-1120  
[www.vahealth.org/hearing](http://www.vahealth.org/hearing)

#### **Virginia Department of Rehabilitative Services**

State Coordinator, Services to Individuals who are Deaf or Hard of Hearing  
Department of Rehabilitative Services  
Administrative Office  
8004 Franklin Farms Drive  
Richmond, Virginia 23229  
(804) 662-7614 voice/TTY  
(804) 662-9140 fax  
[www.vadrs.org/essp/dhh](http://www.vadrs.org/essp/dhh)

#### **Virginia's Early Intervention System: Infant & Toddler Connection of Virginia**

Office of Child and Family Services  
Department of Mental Health, Mental Retardation and  
Substance Abuse Services  
1220 Bank Street  
Richmond, Virginia 23219  
(804) 786-3710 voice  
[www.infantva.org](http://www.infantva.org)

## Guidelines for D/HH

### **Virginia Network of Consultants for Professionals Who Work with Children Who Are Deaf or Hard of Hearing**

VNOC Coordinator  
Partnership for People with Disabilities  
Virginia Commonwealth University  
700 East Franklin Street  
P.O. Box 843020  
Richmond, Virginia 23284-3020  
804-828-1342 voice  
804-828-1120 TTY  
804-828-0042 fax  
[www.vcu.edu/partnership](http://www.vcu.edu/partnership)

### **Virginia Project for Children and Youth with Dual Sensory Impairments/Deaf-Blindness**

Project Director  
Partnership for People with Disabilities  
Virginia Commonwealth University  
700 East Franklin Street  
P.O. Box 843020  
Richmond, Virginia 23284-3020  
877-295-7799 voice  
804-828-1120 TTY  
804-828-0042 fax  
[www.twc-deafblind.state.va.us](http://www.twc-deafblind.state.va.us)

### ***General Informational Resources***

**Alexander Graham Bell Association for the Deaf and Hard of Hearing.** [www.agbell.org](http://www.agbell.org)

**Hands & Voices.** [www.handsandvoices.org](http://www.handsandvoices.org)

**Laurent Clerc National Deaf Education Center.** [www.clerccenter.gallaudet.edu](http://www.clerccenter.gallaudet.edu)

**National Association of State Directors of Special Education, Inc.** [www.nasdse.org](http://www.nasdse.org)

**National Cued Speech Association.** [www.cuedspeech.org](http://www.cuedspeech.org)

**PEPNet - Northeast, National Technical Institute for the Deaf.** [www.netac.rit.edu](http://www.netac.rit.edu)

Note: The NETAC Tipsheets are provided as a service of the Northeast Regional Center at the Rochester Technical Institute. The NETAC Tipsheets serve as a quick reference source for teachers/students and others who work with people who are deaf or hard of hearing.

Topics include: Oral Transliteration, The Role of Assistive Listening Devices, Deaf Culture, Working with Students Who Are Late-Deafened, Serving Deaf Students Who Have Cochlear Implants, Notetaking, Hiring a Qualified Interpreter.

[www.netac.rit.edu/publication/tipsheet](http://www.netac.rit.edu/publication/tipsheet).



### Appendix B Hearing Loss Types, Degree, Age of Onset

#### *Types of Hearing Loss*

A **conductive loss** is any dysfunction of the outer or middle ear in the presence of a normal inner ear. Conductive losses can usually be improved, even corrected, with medication, surgery and/or amplification. Conductive losses can be fluctuating or permanent. Fluctuating losses may be due to etiologies like ear infections or excessive wax. These losses often pose long-term learning risks. Students who have mild to moderate or intermittent losses may be overlooked until their academic achievement is inconsistent with their expected performance.

A **sensori-neural loss** involves dysfunction of the inner ear or along the pathways of the auditory nerve in the presence of a normal outer and middle ear. Sensori-neural losses, especially severe to profound losses, are not medically correctable. Cochlear implant technology is currently offered as an alternative to amplification for individuals who meet criteria for cochlear implant candidacy.

A **mixed loss** involves both conductive and sensori-neural components. It can range from a mild to profound loss.

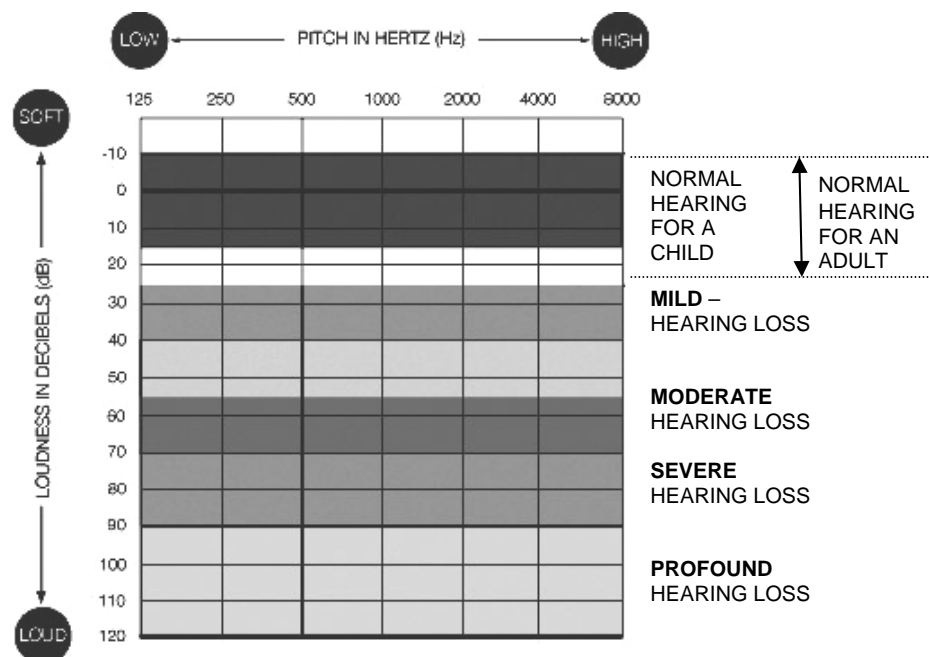
Any of the above hearing losses can be **bilateral**, affecting both ears, or **unilateral**, affecting only one ear. A **unilateral hearing loss** can have conductive, sensori-neural or mixed components. The degree of loss in that ear can range from mild to profound. (See [www.boystownhospital.org/HearingInfo/unilateral.asp](http://www.boystownhospital.org/HearingInfo/unilateral.asp).)

A **Central Nervous System (CNS)** disorder that exists in the presence of normal hearing may involve an **Auditory Processing Disorder** (sometimes referred to as Central Auditory Processing Disorder or CAPD). In spite of normal hearing, a student who is diagnosed with a CAPD has difficulty perceiving, discriminating and understanding sound, particularly in the presence of competing noise. Diagnosis is usually made by an audiologist who tests for auditory perception in less than optimal conditions. The American Speech-Language-Hearing Association (ASHA) has recognized the controversy involved in labeling auditory processing disorder as a hearing disorder or as a learning disability. Intervention for students with this challenge may involve those who are knowledgeable about hearing loss. Addressing the needs of students with auditory processing disorders may require the collaboration of a variety of professionals including audiologists, speech-language pathologists, special educators, and others. (See [www.asha.org](http://www.asha.org).)

#### *Degree of Hearing Loss*

Hearing loss in school-aged populations is highly variable. Predicting a student's progress based on the severity of the hearing loss should be avoided. Two students may have identical audiograms, but function very differently. When attempting to identify educational needs and outcomes, several variables related to the hearing loss are critical.

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(Image used with permission of the League for the Hard of Hearing. [www.lhh.org](http://www.lhh.org).)

See Familiar Sounds Audiogram at the end of Appendix B.

The normal range of hearing for individuals is between -10 decibels (dB) to +15 or 25dB, depending on the source. A loss of 15dB to 25 dB is sometimes called a **minimal loss**. With this type of loss, students may miss up to 10 percent of speech if the teacher is more than three feet away and when the classroom is noisy.

A loss of 26 dB to 40 dB is considered a **mild loss**. The student is likely to understand most speech at close distances, but may miss the highest frequency sounds (like /f/, /th/, /s/), which are also the quietest. In a noisy environment such as a classroom, the student may misunderstand directions, and may be thought to be “not paying attention.” Students with mild hearing losses do not often realize that they are not hearing well. The learning environment may be stressful, as the student must try harder to listen.

A loss of 41 dB to 55 dB is considered a **moderate loss**. With this degree of loss, parents and teachers begin to realize that hearing may be a problem. Face-to-face, conversational speech will be understood at three to five feet, if new vocabulary is not used. Without amplification, the amount of speech missed can be 50 percent to 70 percent with a 40 dB loss. With a 50 dB loss, 80 percent to 90 percent of speech can be missed. Prognosis for normal speech and language development for a student with a moderate loss is excellent with early identification and consistent use of good hearing aids and an FM system when appropriate (OTICON & ADA, 1998).

A loss of 56 dB to 70 dB is considered a **moderate to severe** or **moderately severe hearing loss**. Conversation is not usually understandable at six feet without hearing aids and/or visual cues. If undetected or unaided, language skills will probably be delayed, with reduced

## Guidelines for D/HH

speech intelligibility and poor vocal quality. Social and emotional domains may be affected. The prognosis for speech and language development and auditory skills is considered to be good with early identification, effective intervention (Yoshinago-Itano, 2003) and quality sound-processing hearing aids and FM wireless systems used consistently.

A loss of 71 dB to 90 dB is considered a **severe hearing loss**. Without amplification, the student may hear loud voices if they are about one foot from the ear, but not necessarily understand the speech. When amplified optimally, a student with a severe hearing loss should be able to identify loud sounds in the environment and detect most speech sounds (note: detect, not necessarily discriminate, because the more severe the sensory loss, the more distortion there is). The student will not learn information “incidentally,” by casually overhearing it and will probably need to be taught everything that hearing students may learn without effort.

A loss of 91 dB or more is considered a **profound hearing loss**. Without amplification, the student is aware of vibrations, and the student’s speech is usually unintelligible. With amplification, a student may detect speech in the environment. The more profound the hearing loss is, the greater the degree of sound distortion. A student with a profound hearing loss usually needs a visual method of acquiring language and communicating.

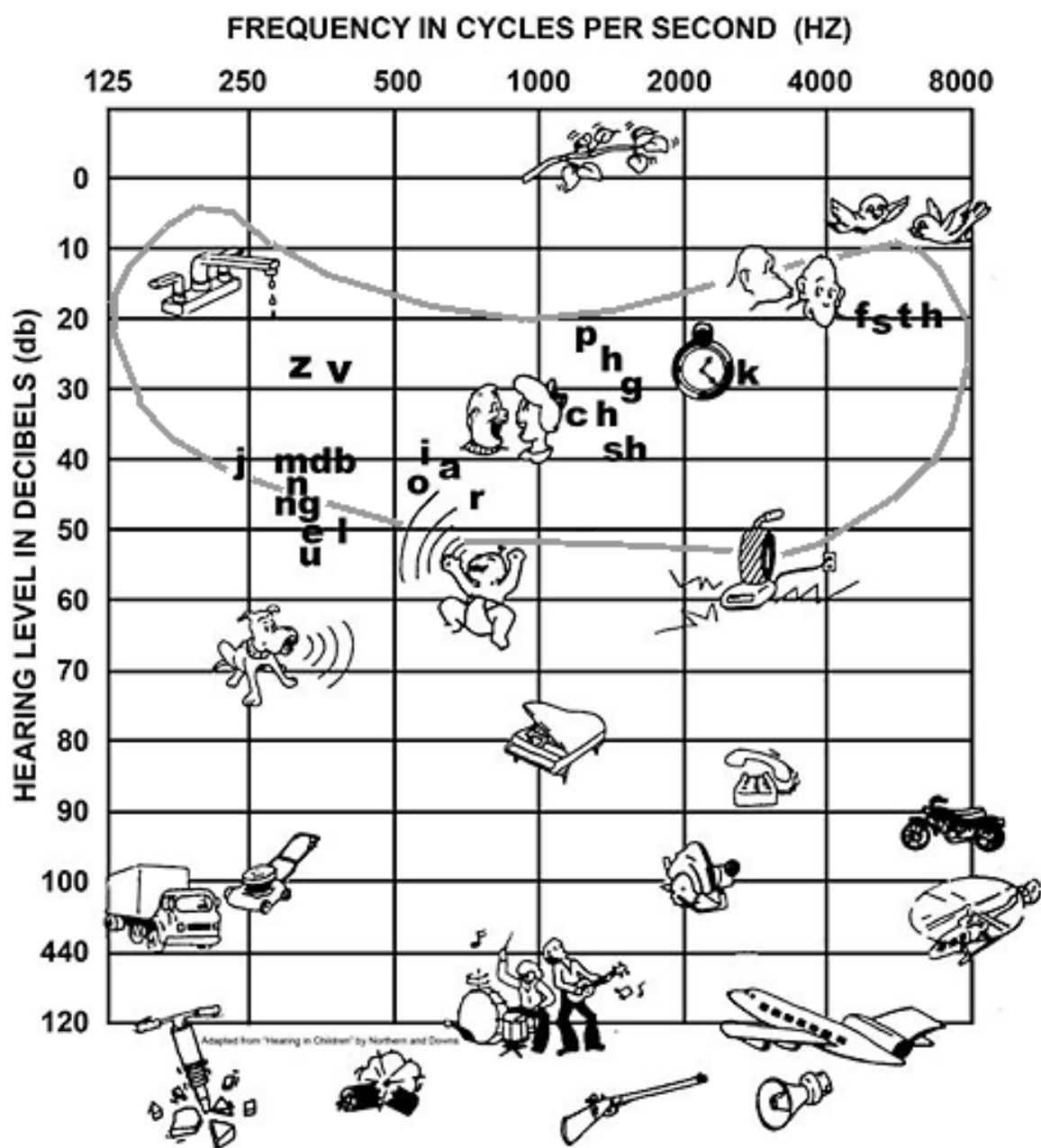
### *Age of Onset of Hearing Loss*

The age at which a child loses hearing is a significant factor affecting language development and concurrent cognitive development. Children who are born deaf or hard of hearing will benefit from early intervention programs. Effective early intervention, particularly when services begin prior to 6 months of age, has been identified as the best predictor of age-expected performance when entering kindergarten (Yoshinago-Itano, 2003).

Individuals who acquire hearing loss after birth are typically categorized in one of two groups: those who lose their hearing prelingually (generally before age 3 or 4) and those who lose their hearing postlingually, after acquiring language. The most common cause of acquired hearing loss is disease (e.g., spinal meningitis, encephalitis) but hearing loss can also be caused by trauma (e.g., car accidents and head injuries) and toxicity (e.g., reaction to medications). Continued research into the genetic causes of hearing loss is revealing a growing number of genes that might account for progressive hearing loss in children and adolescents who are not born deaf or hard of hearing but apparently are born with a genetic predisposition for hearing loss. These individuals present a different profile from those who are born deaf or hard of hearing or suffer a loss due to disease or accident. Etiologic information may be of importance to educators when it is associated with additional educational challenges and /or health risks. (See [www.boystownhospital.org](http://www.boystownhospital.org).)

Individuals who fail to protect their hearing in recreational or vocational activities that involve excessive noise are at risk for developing noise-induced hearing losses. Prevention and identification are critical. Information on noise-induced hearing loss is found at the National Institute on Deafness and Other Communication Disorders (NIDCD) at [www.nidcd.nih.gov/health/hearing/noise.asp](http://www.nidcd.nih.gov/health/hearing/noise.asp).

## Audiogram of Familiar Sounds



Used with permission of the authors: J. Northern and M. Downs. *Hearing in Children*, 5th Edition. Lippincott, Williams & Williams, Baltimore, MD, 2002.

### Appendix C Language and Communication Options

#### *American Sign Language (ASL)*

ASL is a visual-gestural language that is distinct from spoken English. It has its own sentence structure and grammar and is used extensively by the Deaf community. The rationale for using ASL as the primary language is to allow the child to communicate and learn about the world. The philosophy of using ASL is that visual language gives the child who is deaf or hard of hearing the tools to develop cognitive skills and self esteem, and enables the child to master a primary language, thereby facilitating mastery of a second language (English). The child develops language through the use of ASL in daily activities. English is taught as a second language using print. (See *Beginnings for Parents of Children who are Deaf or Hard of Hearing, Inc.*, of North Carolina, at [www.ncbegin.com/about\\_us/order\\_materials.asp](http://www.ncbegin.com/about_us/order_materials.asp).)

If ASL is chosen as the child's primary language, the family needs to learn to sign fluently in ASL in order for the child to develop American Sign Language as the primary language. If ASL is not the native language of the parents, intensive ASL training is needed. Training, as for any second language, should be ongoing.

#### *Auditory/Oral, Aural/Oral, Oral Method*

Auditory-oral programs teach children to make the maximum use of their usable hearing through the use of sensory devices specifically hearing aids, cochlear implants, and sometimes FM systems. They also stress the use of speechreading to assist in receptive communication. Speech is used for expressive communication. Use of any form of manual communication is discouraged although natural gestures may be used. The primary goals of the oral method are for the child to develop speech and communication skills necessary for integration into the hearing community. The child is taught to communicate through a combination of early and consistent use of hearing and speech reading.

Using the oral method, the child expresses him/herself through spoken language. Early use of hearing is critical to this method; therefore, consistent use of hearing aid(s) and/or cochlear implant(s) sometimes with an FM system is emphasized. The family is primarily responsible for the child's language development. Therefore, parents and caregivers need to be involved with the speech and language therapist and teacher to gain the skills needed to utilize training activities for speech, speech reading, and auditory training during the daily routines and play activities at home. Professionals working with a family choosing the oral method must be sure that the family is able to care for and troubleshoot sensory devices.

#### *Auditory-Verbal Method*

The Auditory-Verbal Method, sometimes called the A-V Method emphasizes the development and use of auditory skills. Optimal use of hearing is considered important; therefore, the consistent use of hearing aids, cochlear implants, and/or FM systems is

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emphasized. Focus in therapy is on the parents so that they can reinforce a listening environment at all times. This method differs from the Oral Method in that it discourages speech reading and the use of any visual cues, especially during therapy.

The goals of using an auditory-verbal method include development of hearing skills so that speech can develop and the child can be integrated into the mainstream community. Language is received through audition, facilitated by hearing aids, cochlear implants, and/or FM systems. Expressive speech and written English skills are developed. The family is responsible for creating a language-rich listening environment, and ensuring that the sensory devices are used consistently. Auditory-Verbal therapists focus on training parents to stimulate auditory and speech skills; therefore, parents must be committed to a high degree of involvement in therapy.

### *Cued Speech*

Cued Speech is a visual communication system which, in English, uses eight handshapes in four locations (“cues”) in combination with the natural mouth movements of speech to make all the sounds of spoken language look different. Cued Speech identifies each distinctive speech sound. Shapes of the hand identify consonant sounds; locations near the mouth identify vowel sounds. A hand shape and a location together cue a syllable. In the English language, many phonemes, or individual sounds in speech, look exactly the same on the lips. For the following example, say the sound of the letter, not the letter name: /p/ and /b/, /d/ and /t/. Other speech sounds are not visible at all, such as /g/ and /h/. This example shows that it is difficult to speechread anything except rote communication. In 1966, Dr. Orin Cornett at Gallaudet University developed this system of using hand cues while talking to help visually distinguish between sounds. Cued Speech makes the person aware of the mouth movements needed to make speech sounds.

Receptive language skills are developed through use of residual hearing with amplification, and through speech reading facilitated by cues. With the child’s focus on the mouth movements and spoken English, the child communicates through spoken English, sometimes using cues themselves, and through written English. Amplification or the use of a cochlear implant is often encouraged by proponents of Cued Speech to maximize the use of hearing. Those working with children who use Cued Speech must cue at all times to expose them to language so that they learn Cued Speech and develop age-appropriate speech and language. Professionals working with families who cue must be models for cueing during interactions when the child is present.

Families and professionals who want to use Cued Speech with a child usually attend an intensive, three-day training to learn and practice the handshapes and placements for all of the English phonemes. Following initial study of Cued Speech, they are encouraged to use cueing daily and to become proficient enough to be able to speak at a normal pace while cueing. Cued Speech can be used with many spoken languages. (See [www.cuedspeech.org](http://www.cuedspeech.org).)

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### *Total Communication*

The total communication philosophy incorporates the use of any and all means of communicating. This includes the use of sign language, fingerspelling, gestures, body language, facial expression, and also the development of listening and speech skills. Speechreading is also developed. Different methods may be used at different times to provide the most effective means of communicating. For example, English and reading classes may be taught using a method of signed English, while history may be taught in ASL. The individual's use of speech and sign language may be encouraged as well as the use of all other visual cues.

The primary goal of total communication is to provide an effective communication environment between children and their families, teachers, and peers. Language is received through exposure to sign, listening, speech reading, and nonverbal cues such as facial expression and gestures. Children with total communication may express themselves through all means: speech, sign language, fingerspelling, and written English. The use of sensory devices is strongly encouraged so that they may make optimal use of their usable hearing. Families may need support to access sign language resources. They may also need training to encourage their children's use of speech, speechreading, and audition.

Total communication should not be confused with simultaneous communication, or sim com. Simultaneous communication means talking and signing at the same time. It is different than total communication (adapted from the Communication Options Chart at [www.ncbegin.com/about\\_us/order\\_materials.asp](http://www.ncbegin.com/about_us/order_materials.asp)).

**Appendix D**  
**Suggested Visual Inspection and Listening Check**  
**for Hearing Aids, Cochlear Implants and FM Systems**

***Hearing Aid***

**Visual Inspection:**

- Check overall hearing aid for signs of damage.
- Check battery with battery tester.
- Check battery case for corrosion or rust.
- Examine tubing and earmolds for cracks.
- Examine earmold for wax blockage.
- Check tubing and ear hook for moisture.
- Check volume setting and off/on switches.
- Ensure that battery is inserted correctly with “+” symbols matching on the hearing aid and battery.

**Listening Check:**

- Using a stethoscope/stethoset, listen for steady increase in sound without static or intermittent sound while increasing the volume wheel.
- Note any intermittency or static when turning switch on/off.

**Behavioral Check:**

**Ling Six-Sound Test:** Condition the student to respond to the speech sounds *oo, ah, ee, sh, ss,* and *mm* without visual cues, initially at a distance of 12 inches, gradually increasing to 3 feet. The student should respond initially with a conditioned response (dropping a block in a bucket or raising a hand when each sound is heard) and should progress to imitation of each sound. Presentation of the sounds should vary so that the student does not respond in anticipation of the sound. The ability to perceive the six sounds will vary depending on the degree of hearing loss and the ability of the amplification device to allow the child to perceive the sounds. These six speech sounds span the frequency range for the sounds of spoken English. Directions and a simple form for the Ling Six-Sound Test are available at [www.auditoryoptions.org/ling.htm](http://www.auditoryoptions.org/ling.htm).

***Cochlear Implant***

**Visual Inspection:**

- Check batteries or verify that battery pack was charged properly:
- Ensure batteries are inserted in processor correctly.
- Check battery use for corrosion.
- Verify program, microphone sensitivity and volume settings according to cochlear implant center directions. (Use listening earphones if available to test microphone.)



## Guidelines for D/HH

- Check cables for wear and breakage.
- Be certain all cables are attached snugly to processor and headpiece.
- Check transmitting coil as directed by manufacturer.

### **Behavioral Check:**

**Ling Six-Sound Test:** Condition the student to respond to the speech sounds *oo, ah, ee, sh, ss,* and *mm* without visual cues, initially within a few inches of the student's microphone and gradually increasing to several feet. The student should respond with a conditioned response and should progress to sound imitation. The student with a cochlear implant should have perception of all six sounds. Presentation of the sounds should vary so that the student does not respond in anticipation. Directions and a simple form for the Ling Six-Sound Test are available at [www.auditoryoptions.org/ling.htm](http://www.auditoryoptions.org/ling.htm).

### ***FM System***

#### **Visual Inspection:**

- Check battery or check that equipment is properly charged.
- Ensure that earmolds, cords, transducers and audio shoes/boots are attached snugly to the FM receivers and/or hearing aids.
- Verify that switches are set to correct positions so that the student receives a signal from the transmitter microphone.
- Check user volume control on FM receiver, if available.

#### **Listening Check:**

- Using a stethoscope/stethoset, listen to the FM receiver or the hearing aid with the transmitter turned off (environmental microphone only).
- Turn on the transmitter and listen for the signal from the microphone.
- Verify that speech can be heard clearly through the transmitter microphone in addition to speech being heard through the environmental microphone of the hearing aid or the FM receiver.

Follow recommended settings for use of transmitter microphone and environmental microphone of the hearing aid or FM receiver.

Note: A programmable hearing aid may require modification to the hearing aid program in order for the hearing aid to accept the FM signal. (The hearing aid may need to be adjusted by an audiologist.)

### Appendix E Assessment

#### Description of Tests and Assessment Procedures Used in Educational Settings

**Criterion-referenced tests** are used to determine whether a student has achieved specific skills or concepts included in a curriculum. A student who reads 80 of 100 basic sight words has reached 80 percent criterion. A re-administration of the same test following additional instruction or practice enables a comparative gauge of learning across time. Scores on criterion-referenced tests indicate what individuals can do, not how they have scored in relation to the scores of particular groups of persons, as in norm-referenced tests.

**Norm-referenced tests** compare an individual's performance to that of a group, called the norm group. These tests rank a given student's performance against others in the "norm group" who are matched by age, grade, or some other student or learning variable and are helpful in discriminating between high and low achievers. For the results to be meaningful, it is necessary to know the specific composition of the norm group. For students who are deaf or hard of hearing, this often means a comparison with same-aged hearing peers.

**Authentic assessment** refers to a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills. For example, authentic assessments may ask students the following: read real texts, write for authentic purposes about meaningful topics, and participate in authentic literacy tasks such as discussing books, keeping journals, writing letters, and revising a piece of writing. The assessment task itself and the material used for the task look as natural as possible (e.g., mailing a letter means using a real envelope and stamp). Authentic assessment values the thinking behind work and the process, as well as the finished product.

**Curriculum-based measurement (CBM)** is a method of monitoring student performance through frequent, direct assessment of academic skills for the purposes of evaluating the effects of their instructional programs. CBM can be used to measure basic skills in many academic domains, such as reading, mathematics, spelling and written expression. Teachers administer "probes" or brief timed samples of academic material taken from the curriculum in the classroom. These probes can be scored for fluency, accuracy and comprehension, depending upon the specific skills measured and teacher goals. CBM provides direct information about how individual students improve over time relative to their own previous performance. A CBM approach can be particularly beneficial for students who are deaf or hard of hearing and who may have very different learning styles and challenges as compared to students in typical norming samples. Using CBM over time can allow a school or district to compare an individual student's performance and progress to the performance and progress of other students within the same school or district. Guidelines for Instruction-Based Assessments can be found at the Virginia Department of Education's Web site at [www.doe.virginia.gov/VDOE/Instruction/Sped/PSYCHpage.html](http://www.doe.virginia.gov/VDOE/Instruction/Sped/PSYCHpage.html).

An additional resource is

[www.interventioncentral.org/htmdocs/interventions/cbmwarehouse.php](http://www.interventioncentral.org/htmdocs/interventions/cbmwarehouse.php).

## Guidelines for D/HH

### Suggested List of Assessment Tools

The following is a list of assessment tools that have been used with students who are deaf or hard of hearing. The purpose for assessment (e.g., initial eligibility, 3-year reevaluation) and the individual student's needs determine which assessments are appropriate, whether a particular assessment tool requires some modification, and/or whether an assessment may be useable only in part (e.g., visual or performance subtests from a more comprehensive standardized test). Modifications and accommodations made during testing must be noted in reporting results. This list is not exhaustive nor does the inclusion of any assessment tool indicate endorsement or recommendation by the VDOE. Internet searches may be used to obtain complete information on each instrument.

#### *Cognitive Assessments*

**Benton Visual Retention Test (BVRT):** an assessment of short term visual memory.

**Cognitive Assessment System (CAS):** an assessment battery designed to evaluate cognitive processing in children 5-17 years of age.

**Kaufman Assessment Battery for Children (K-ABC):** an assessment of the intelligence and achievement of 2.6 -12.6 year-old children.

**The Test of Nonverbal Intelligence-Third Edition (TONI-III):** a language-free measure of cognitive ability.

**Test of Visual Motor Integration (VMI):** an assessment of visual perception and motor coordination.

**Universal Nonverbal Intelligence Test (UNIT):** an assessment designed to measure the general intelligence and cognitive abilities of children and adolescents from ages 5 to 17 years who seem to be disadvantaged by traditional verbal and language-loaded measures.

**The Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV):** an assessment of the intellectual ability of children from ages 6 years through 16 years, 11 months.

#### *Psycho-Social Assessments*

**Children's Apperception Test (CAT):** an apperceptive instrument used to investigate personality by studying the dynamic meaningfulness of individual differences in the perception of standard stimuli.

**Children's Depression Inventory (CDI):** an assessment to identify depression in children.  
**Kinetic House-Tree-Person Drawings:** an instrument that uses projective drawings used to assess social emotional functioning.

**Meadow-Kendall Social/Emotional Assessment Inventory for Deaf Students:** a school-

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age inventory assessing social adjustment, self-image, and emotional adjustment. Norms are provided for students, from ages 7 to 15 and 16 to 21.

### *Behavior Assessments*

**Achenbach Child Behavior Checklist:** an assessment identifying a behavioral profile of a child in specific areas based on the responses from teachers, parents, and/or the child.

**Conners' Rating Scales:** an assessment identifying a behavioral profile of a child in specific areas based on responses from teachers, parents, and/or the child.

### *Occupational Therapy Assessments*

**The Beery-Buktenica Test of Visual Motor Integration, 4<sup>th</sup> ed. (VMI):** a test for subjects ages 3.0 years to 17 years 11 months.

**The Bruininks-Oseretsky Test of Motor Proficiency, 2<sup>nd</sup> ed. (BOT-2):** a measurement of gross and fine motor skills.

**The Developmental Test of Visual Perception-Second Edition (DTVP-2):** a test for subjects 4 years up to 10 years, 11 months

**The Gardner Test of Visual Motor Skills-Revised (TVMS-R):** a test designed for children ages 3.0 years up to 13 years 11 months.

**The Gardner Test Of Visual Perceptual Skills-Revised (TVPS-R):** a test for subjects aged 4.0 years up to 12 years 11 months.

**The Peabody Developmental Motor Scale (PDMS-2):** an assessment designed for infants and toddlers, 15 days to 71 months.

### *Basic Concepts Assessments*

**The Battelle Developmental Inventory 2<sup>nd</sup> Ed. (BDI-2):** an assessment of key developmental skills in children from birth to 8 years-of-age.

**Boehm Test of Basic Concepts-Revised (BTBC-R):** a test of basic relational concepts of comparison, direction, position, quantity, and time.

**Bracken Basic Concept Scale-Revised (BBCS-R):** an assessment of basic concept acquisition and receptive language skills of children from 2 years, 6 months to 8 years of age. It includes twelve conceptual categories: colors, letters, numbers, counting, sizes, comparisons, shapes, direction/position, self/social awareness, texture/materials, quantity, and time/sequence.

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**St. Gabriel's Curriculum 2<sup>nd</sup> Ed.:** a program providing a scope and sequence of eight areas of development: audition, language, early communication, speech, cognition and social interaction.

### *Expressive and Receptive Language Assessments*

**The Bzoch-League Receptive-Expressive-Language Test 2nd Ed. (REEL-2):** a scale designed for infants and toddlers up to 3 years of age. Results are reported in terms of Expressive Language Age, Receptive Language Age, and Combined Language Age.

**Cottage Acquisition Scales For Listening, Language, and Speech. (CASLLS):** a curriculum including a developmental checklist for assessment and planning for diagnostic therapy. The language section includes steps from pre-verbal through to complex sentences including pragmatic development.

**Expressive One-Word Picture Vocabulary Test (EOWPVT):** an assessment of English speaking vocabulary by asking the child to name objects, actions and concepts pictured in illustrations.

**The Expressive Vocabulary Test, 2nd Ed. (EVT-2):** an assessment often used in conjunction with the PPVT to compare receptive and expressive vocabulary.

**Grammatical Analysis of Elicited Language, Pre-Sentence Level (GAEL-P):** an assessment developed for children with hearing loss, containing three sections: readiness skills, single words, and word combinations. It can be administered in spoken or signed English.

**Kendall Communicative Proficiency Scale:** an assessment providing information on the pragmatic aspects of communication/language, available in "The Tool Kit" from *Starting With Assessment: A Developmental Approach to Children's Literacy* (1999) by Martha French, distributed by the Clerc Center, Gallaudet University, Washington, D.C.

**The Language Development Survey (LDS):** an instrument using parents' reports of vocabulary and word combinations to identify language delays in children ages 18-35 months.

**The MacArthur Communication Development Inventory: Words, Gestures, and Sentences:** a questionnaire/checklist asking parents to identify various words that their child either says or signs.

**Oral and Written Language Scales (OWLS):** an assessment of higher order thinking, semantics, syntax, vocabulary, and pragmatics.

**Peabody Picture Vocabulary Test (PPVT-4):** a test measuring a child's understanding of individual vocabulary. Often used in conjunction with the EVT-2.

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**Preschool-Clinical Evaluation of Language Fundamentals (CELF-P):** an evaluation of expressive and receptive language ability standardized for children ages 3 years, 0 months to 6 years, 11 months.

**The Preschool Language Scale-4 (PLS-4):** a standardized test of auditory comprehension and expressive communication for infants and toddlers, which includes an articulation screener and a language sample checklist.

**Receptive One-Word Picture Vocabulary Test (ROWPVT):** a test assessing knowledge of vocabulary by asking the child to point to the object being named.

**The Reynell Development Language Scales III, 3rd ed. (RDLS III):** an assessment of receptive and expressive language designed for children ages 15 months to 7 years of age.

**The Rossetti Infant-Toddler Language Scale: A Measure of Communication and Interaction:** a scale assessing preverbal and verbal areas of communication and interaction including the topics of interaction-attachment, pragmatics, gesture, play, language comprehension, and language expression.

**The Screening Instrument for Targeting Educational Risk (S.I.F.T.E.R.)/The Preschool S.I.F.T.E.R.:** scales rating a child in comparison with other children in the classroom in five areas, including academics, attention, communication, classroom participation, and school behavior.

**SKI-HI Language Development Scale:** a scale, developmentally ordered and containing a list of communication and language skills in varying intervals for different ages. Each age interval is represented by observable receptive and expressive language skills in order to obtain a profile of a child's language ability.

**Systematic Analysis of Language Transcripts (SALT):** an instrument analyzing the spoken and signed language produced in a 30 minute play session. It is designed to provide a portrait of the child's language as well as the type of language the caregiver uses while communicating with the child. Analyses are done every six months to measure language growth.

**Teacher Assessment of Grammatical Structures (TAGS):** instrument consisting of rating a child's understanding of grammatical structures in sentences of at least four words in length that contain a subject and a verb.

**Teacher Assessment of Spoken Language (TASL):** a teacher rating form designed to rate the sentence structure of children who are deaf and hard of hearing. The TASL evaluates the development of spoken language from first words through the use of complex sentences.

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### *Auditory/Listening Skills Assessments*

**AuSpLan: A Manual for Professionals Working with Children Who Have Cochlear Implants or Amplification:** a manual including a framework for rating a child's potential to use a cochlear implant as well as performance outcomes and presents tools to guide planning and training in the areas of auditory, speech, and language development.

**Developmental Approach to Successful Listening II (DASL):** a sequential program with an ongoing rating that focuses on individual making optimal use of their residual hearing. A hierarchy of listening skills is organized into Sound Awareness, Phonetic Listening and Auditory Comprehension.

**Early Speech Perception Test for Profoundly Hearing-Impaired Children (ESP):** a test of speech perception for profoundly deaf children as young as 3 years of age.

**Functional Auditory Performance Indicators: An Integrated Approach to Auditory Development (FAPI):** an assessment of the functional auditory skills of children with hearing loss.

**The Lexical Neighborhood Test and the Multi-syllabic Lexical Neighborhood Test (LNT/MLNT):** open-set tests of word recognition based on the lexical characteristics of word frequency and neighborhood density, including words found in the typical vocabularies of children age three to five. Results may be used as a benchmark for children with hearing loss.

**The Listening Inventory for Education: an Efficacy Tool (L.I.F.E.):** an instrument designed to determine amplification benefit using input from the student and the teacher.

**Meaningful Auditory Integration Scale/Infant-Toddler: Meaningful Auditory Integration Scale (MAIS/IT-MAIS):** scales developed for children who have profound hearing loss and designed to obtain information on use of amplification/cochlear implant and auditory behaviors regarding environmental and speech sounds.

**Speech Perception Instructional Curriculum and Evaluation (SPICE):** a program used to evaluate and develop auditory skills in children as young as 3 years old who have hearing loss.

**Test of Auditory Comprehension of Language-Third Edition (TACL-3):** a measurement of auditory comprehension skills including word classes and relations, grammatical morphemes, and elaborated sentences.

**Word Associations for Syllable Perception (WASP):** a tool assessing a child's perception of English phonemes using simple picture cards and a diagnostic scoring system.

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### *Speech Skills Assessments*

**The Arizona Articulation Proficiency Scale 3<sup>rd</sup> ed.:** a tool designed to identify misarticulations and total articulatory proficiency.

**CID Phonetic Inventory:** a rating form to record a child's ability to produce speech sounds.

**The Central Institute for the Deaf Picture Speech Intelligibility Evaluation (SPINE):** an assessment using pictures to evaluate speech intelligibility in children as young as 6 years of age.

**Cottage Acquisition Scales For Listening, Language, and Speech (CASLLS):** a program providing a developmental checklist for assessment and diagnostic planning for therapy. The speech section tracks objectives from Phonetic-Phonologic Speech Evaluation Record and links these objectives to phonetic listening development.

**The Goldman Fristoe: Test of Articulation 2:** an assessment of a child's articulation ability that samples spontaneous and imitative speech production.

**Identifying Early Phonological Needs in Children with Hearing Impairment:** a tool used in assessing how a young child with hearing loss spontaneously uses first-level phonological patterns. It numerically rates whether the child's patterns are missing, emerging, or mastered.

**Paden-Brown Phonological Kit:** a tool designed to assess spontaneous use of first level phonological patterns in children with hearing loss.

**Phonetic-Phonologic Speech Evaluation Pads:** evaluation forms described in chapter nine of *Speech and the Hearing Impaired Child*, 2<sup>nd</sup> ed., by Daniel Ling and used to assess the segmental and nonsegmental aspects of speech at both the phonetic and phonologic levels.

**Photo Articulation Test (PAT-3):** an assessment of articulation errors.

**Spoken Communication for Students who are Deaf or Hard of Hearing: A Multidisciplinary Approach:** a curriculum that includes a Student Speech Record (SSR) which is used to evaluate non-verbal communication (attention, turn taking, eye contact, and breath support) and suprasegmentals; vowels and diphthongs; and consonants at the phonetic, phonologic, and pragmatic levels. The SSR also includes an oral peripheral examination form.

### *Sign Language Assessment*

**American Sign Language Developmental Sequences:** a list available in "The Tool Kit" from *Starting With Assessment: A Developmental Approach to Children's Literacy* (1999) by Martha French.

**ASL Development Observation Record:** a form developed at the California School for the



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Deaf, Freemont, to document the ASL language development of young children who are deaf from the time they entered the program to kindergarten.

**The American Sign Language Proficiency Assessment (ASL-PA):** a tool designed to globally assess the expressive ASL skills of children ages 6-12 years old. Items/target features are based on ASL acquisition studies. Language samples are elicited from varied discourse contexts. No sample norms presently available.

**Checklist of Emerging ASL Skills:** a tool providing a series of indicators to determine whether a child who is deaf has components of ASL in his or her communication system. Available in Easterbrooks, S. and Baker, S. *Language Learning In Children Who Are Deaf And Hard Of Hearing: Multiple Pathways* (2002).

**Test of American Sign Language (TASL):** an assessment designed for use with students ages 8-15 years. It consists of two production measures (Classifier Production Test and Sign Narrative) and four comprehension measures (Story Comprehension, Classifier Comprehension Test, Time Marker Test, and Map Marker Test).

### *Academic Testing*

**Kaufman Test of Educational Achievement, 2<sup>nd</sup> ed. (KTEA-II):** an assessment of reading, mathematics, written language and oral language.

**Qualitative Reading Inventory-4 (QRI-4):** an informal assessment instrument that emphasizes authentic assessment of children's reading abilities from emergent to advanced readers.

**Test of Early Reading Ability-3rd ed. (TERA-3):** an instrument assessing mastery of early developing reading skills using three subtests: Alphabet (knowledge of the alphabet and its uses), Conventions (knowledge of the conventions of print), and Meaning (measuring the construction of meaning from print).

**Woodcock-Johnson III:** a battery that includes the WJ III Tests of Achievement and the WJ III Tests of Cognitive Abilities to measure general intellectual ability, specific cognitive abilities, scholastic aptitude, oral language and achievement.

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### Appendix F

#### Sample Communication Plan for a Student Who Is Deaf or Hard of Hearing

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

IDEA 2004, § (14 9d) (3) (B) (iv) Development, review, and revision of IEP.

(2) Consideration of special factors. 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;

The IEP team has considered each item below:

I. . . . the child's language and communication needs,

1. The student's primary language is one or more of the following (check all that apply):

Primary Language Used	Instructional		Conversational	
	Receptive	Expressive	Receptive	Expressive
English				
American Sign Language				
Other Language: _____				
Emerging Language (state in columns)				
No formal language established				

2. The student primarily uses one or more of the following to communicate (check all that apply):

Communication Used	Instructional		Conversational	
	Receptive	Expressive	Receptive	Expressive
Auditory/Oral				
Auditory/Verbal				
Cued Speech				
Speechreading				
Gestures				
Fingerspelling				
Sign Language				
American Sign Language (ASL)				
Contact Varieties Sign Language (Pidgin)				
Conceptually Accurate Signed English				
Signed English				
Signing Exact English (SEE)				
Tactile Signing				
Augmentative Communication (specify)				

Other, please explain \_\_\_\_\_

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Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

3. What assistive technology devices are used by the student? (hearing aids, cochlear implant, FM system, etc.)

How consistently are devices used?

4. What language(s) and mode(s) of communication do the parents and family members use with the student?

5. What is needed to increase the proficiency of parents and family members in communicating with the student?

**II. . . . opportunities for direct\* communications with peers and professional personnel. . . including opportunities for direct instruction in the child's language and communication mode,**

*\*Direct language/communication/instruction occurs person to person, not through an additional source (e.g., education interpreter, captioner).*

The IEP team has considered opportunities for direct communication which may be provided by the school and/or family:

1.  Opportunities for direct\* instruction.

Describe opportunities:

2.  Opportunities for direct\* communication with peers.

Describe opportunities:

3.  Opportunities for direct\* communication with professional staff and other school personnel.

Describe opportunities:

List strategies for increasing opportunities for direct communication/instruction as needed:

## Guidelines for D/HH

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

### III. . . . academic level,

1. Does the student have the communication and language necessary to acquire the grade-level academic skills and concepts included in the general education curriculum?

Yes: What supports are needed to continue proficiency in grade-level academic skills and concepts?

No: What supports are needed to increase the student's proficiency in language and communication to acquire grade-level academic skills and concepts?

2. Does the student have the communication and language necessary to acquire daily living/functional living skills?

Yes: What supports are needed to continue proficiency in the acquisition of daily living/functional living skills?

No: What supports are needed to increase the student's proficiency in communication and language development to acquire daily living/functional living skills?

### IV. . . . full range of needs,

The IEP team has considered the full range of needs.

Comments (optional):

This document was prepared by:

Name	Signature	Title	Date

*Adapted and used with permission from the Iowa Department of Education, 4/06*

### Appendix G Strategies for Recruiting Qualified Educational Interpreters

To recruit qualified educational interpreters, school divisions can:

- Advertise in local newspapers and those of larger nearby cities.
- Post the position on the Virginia Department of Education Web page by accessing
  - [www.doe.virginia.gov/VDOE/JOVE/home.html](http://www.doe.virginia.gov/VDOE/JOVE/home.html) for information on posting a position; or
  - [www.teachvirginia.org/employment.cfm](http://www.teachvirginia.org/employment.cfm) to advertise a position with TeachVirginia, a statewide job bank powered by [www.Teachers-Teachers.com](http://www.Teachers-Teachers.com), also accessible through the VDOE Web site.
- Contact interpreter training programs in Virginia and surrounding states and ask them to announce job openings or post them where their students can access them. The following is contact information for American Sign Language (ASL) or interpreter training programs:

#### Virginia

Danville Community College  
Director of American Sign Language  
Program  
1008 South Main Street  
Danville, Virginia 24541-4004  
(434) 797 - 8479 (voice/TTY)  
(434) 797 - 8449 fax  
[camos@dcc.vccs.edu](mailto:camos@dcc.vccs.edu)

WEIT (Weekend Educational Interpreter  
Training)  
Danville Community College  
Cat Clough, Coordinator  
[catclough@aol.com](mailto:catclough@aol.com)

New River Community College  
Director of American Sign Language  
Program  
P.O. Box 1127  
Dublin, Virginia 24084  
(540) 674 - 3600 (extension 4290)  
[nrbryap@nr.edu](mailto:nrbryap@nr.edu)

J. Sargeant Reynolds Community College  
Director of American Sign Language and  
Interpreter Education  
DTC 211  
Division of Arts, Humanities, and Social  
Sciences  
P.O. Box 85622  
Richmond, Virginia 23285-5622  
(804) 523 - 5604  
(804) 786 - 0655 fax  
[bsofinski@reynolds.edu](mailto:bsofinski@reynolds.edu)

Tidewater Community College  
American Sign Language Studies and  
Interpreter Education  
1428 Cedar Road  
Chesapeake, Virginia 23322  
(757) 822 – 5015 (voice mail/videophone)  
(866) 327-8877 (video relay)  
(757) 822-5155 (fax)  
[sgrieser@tcc.edu](mailto:sgrieser@tcc.edu)

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### Out-of-State

Gallaudet University  
Department of Interpretation  
800 Florida Ave, NE  
Washington, D.C. 20002  
(202) 651 - 5149  
[steven.collins@gallaudet.edu](mailto:steven.collins@gallaudet.edu)

Community College of Baltimore County, Catonsville  
Interpreter Preparation Program  
800 S. Rolling Road  
Catonsville, Maryland 21228  
(410) 455 – 4474 (voice/TTY)  
(410) 455-4917 (videophone)  
(410) 455-5134 (fax)  
[sbrown@ccbcmd.edu](mailto:sbrown@ccbcmd.edu)

Gardner-Webb University  
American Sign Language and Interpreter Training Program  
P.O. Box 7304  
Boiling Springs, North Carolina 28017  
(704) 406 - 4418  
[mhigh@gardner-webb.edu](mailto:mhigh@gardner-webb.edu)

University of North Carolina at Greensboro  
Interpreter Preparation Program  
316 Ferguson Bldg,  
P.O. Box 26170  
Greensboro, North Carolina 27402-6170  
(336) 334-3772  
[gstorres@uncg.edu](mailto:gstorres@uncg.edu)

Eastern Kentucky University  
Director of ASL and Interpreter Education  
245 Wallace Building  
Richmond, KY 40475  
(859) 622-4966  
[laurence.hayes@eku.edu](mailto:laurence.hayes@eku.edu)

### Appendix H Instructional Resources

**Assessing Literacy with the Learning Record:** a tool presenting a framework that translates teachers' observations into a disciplined, systematic, standards-based reporting process. [www.heinemann.com/shared/products/E00117.asp](http://www.heinemann.com/shared/products/E00117.asp).

**Cochlear Implant Auditory Training Guide:** a program that presents an auditory skills hierarchy, including a placement test, lesson plan forms, acoustic screens, and discrimination cards and activities for single word, multiple element and broader language listening at all levels. [www.wordplay.ca/publicationssorted](http://www.wordplay.ca/publicationssorted).

**COMETS** (Clearinghouse on Mathematics, Engineering, Technology and Science): a useful resource for the classroom teacher, which offers valuable classroom teaching tips and lesson plans for science and mathematics, but is also relevant to teachers of all content areas. The importance of communication and writing in the classroom is addressed and professional development activities are described. [www.rit.edu/~comets/resources.htm](http://www.rit.edu/~comets/resources.htm).

**Failure Free Reading:** a language development and reading comprehension program designed for lowest literacy readers. [www.failurefree.com](http://www.failurefree.com).

**Fairview Learning Program:** a reading program that includes the Adapted Dolch Word Lists and Bridge Lists (English phrases which require more than a single-word to single-sign translation for understanding). [www.fairviewlearning.net](http://www.fairviewlearning.net).

**The Itinerant Connection:** a resource that offers information on working with students who are deaf or hard of hearing in a variety of academic settings. [www.theitinerantconnection.com/teachers.htm](http://www.theitinerantconnection.com/teachers.htm).

*Language & Literacy Development in Children Who are Deaf*, by Barbara Schirmer, Allyn & Bacon, 2000.

**Listening Games for Littles:** listening activities designed for working with children age 5 and younger. [www.wordplay.ca/publicationssorted](http://www.wordplay.ca/publicationssorted).

**Literacy: A Clerc Center National Mission Priority:** a description of projects and information on literacy with children and young adults who are deaf and hard of hearing, including a model of a comprehensive literacy program which may be used with students who are deaf or hard of hearing in any communication methodology that consists of the following nine components:

- reading to students
- language experiences
- independent reading
- dialogue journals
- other journals and logs
- guided reading and writing

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- shared reading and writing
- writing workshop
- research, reading and writing

See [www.clerccenter.gallaudet.edu/literacy/about.html](http://www.clerccenter.gallaudet.edu/literacy/about.html).

**Odyssey:** magazine for teachers of students who are deaf or hard of hearing. The Fall 2003 edition was devoted to literacy.

[www.clerccenter.gallaudet.edu/Odyssey/Fall2003/index.html](http://www.clerccenter.gallaudet.edu/Odyssey/Fall2003/index.html).

**Orton-Gillingham Program:** a reading curriculum designed for students with dyslexia  
[www.dys-add.com/teach.html#ogmethod](http://www.dys-add.com/teach.html#ogmethod) .

**The PBSKids Cornerstones Project :** a resource offering reading and language arts teaching units using a technology-infused approach to literacy development for early elementary students who are deaf or hard of hearing.

[www.pbskids.org/lions/cornerstones/introduction.html](http://www.pbskids.org/lions/cornerstones/introduction.html).

**Phonics: The Sounds of American English:** an online resource for showing articulation of speech sounds. [www.uiowa.edu/~acadtech/phonetics/english/frameset.html](http://www.uiowa.edu/~acadtech/phonetics/english/frameset.html).

**Phono-Graphix:** a tool designed for students needing phonics support.

[www.readamerica.net/page9alink.asp](http://www.readamerica.net/page9alink.asp).

**Planning for Literacy Instruction:** [www.clerccenter.gallaudet.edu/Products/Sharing-Ideas/planning/intro.html](http://www.clerccenter.gallaudet.edu/Products/Sharing-Ideas/planning/intro.html).

**Read It Again and Again:** [www.clerccenter.gallaudet.edu/Literacy/readagainf.html](http://www.clerccenter.gallaudet.edu/Literacy/readagainf.html).

**Reading Tips with Young Children who are Deaf and Use Sign Language:**

- Let the child see the book, your face and signs simultaneously.
- Do not be limited by the print - expand on pictures.
- Be dramatic - use props, exaggerate, use facial expression, use eye gaze, use body shift to show different characters.
- Vary location of signing - on book, on child, etc.
- Read a story several times if a child asks.
- Act out the story together after reading it.
- Use signed English, Cued Speech, and fingerspelling to clarify differences between ASL and printed English.
- Encourage children to translate between sign language and English, and to make connections between all modes presented.



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**See-the-Sound Visual Phonics:** a tool designed to represent phonemes visually. [www.clerccenter.gallaudet.edu/Odyssey/Fall2003/index.html](http://www.clerccenter.gallaudet.edu/Odyssey/Fall2003/index.html). Professional development opportunities related to Visual Phonics are available through VNOG Services, (804) 828-1342 or [www.vcu.edu/partnership](http://www.vcu.edu/partnership).

**Shared Reading Project:** a program designed to teach parents and caregivers how to read to children who are deaf or hard of hearing children using American Sign Language and to use strategies to make book sharing effective. [www.clerccenter.gallaudet.edu/Literacy/srp/](http://www.clerccenter.gallaudet.edu/Literacy/srp/).

**SKI-HI Curriculum: F, Volume 2 - Literacy Topic 4 Booksharing:** [www.hopepubl.com](http://www.hopepubl.com).

**The SOL Enhanced Scope and Sequence Plus (ESS +):** a resource offering sample lesson plans that have been aligned with the Virginia Standards of Learning. Lessons have modifications and adaptations designed for students with special needs and/or with limited English proficiency that can also be used with students who are deaf or hard of hearing. A special section provides specific instructional strategies within content areas for students who are deaf or hard of hearing. [www.ttaonline.org](http://www.ttaonline.org).

***Speechreading: A Way to Improve Understanding*, 2<sup>nd</sup> ed.** rev. by H. Kaplan, S. Bally and C. Garretson. Gallaudet University Press, 1985: a resource providing exercises for speechreading. [www.gupress.gallaudet.edu](http://www.gupress.gallaudet.edu).

***Starting with Assessment: A Developmental Approach to Deaf Children's Literacy*** by Martha M. French, 1999. [www.clerccenter.gallaudet.edu](http://www.clerccenter.gallaudet.edu)

**The Strategic Instruction Model (SIM):** a project developed at the University of Kansas Center for Research on Learning (CRL) to promote effective teaching of critical content in schools. Two interventions, content enhancement routines and learning strategies, were designed by the CRL to effectively meet the needs of academically diverse students in both general education and special education classrooms. Each routine/strategy has a teaching device that serves as a visual representation of the concept being taught. The device, along with the learning process that accompanies it, engages the students in routine skills that allow them to analyze and understand new information and new concepts. [www.ku-crl.org](http://www.ku-crl.org).

**Top Ten Strategies Deaf Bilingual Parents use to Promote Literacy Skills in Their Deaf Children:** [www.literacy.dhhs.org/index.php?option=content&task=view&id=9](http://www.literacy.dhhs.org/index.php?option=content&task=view&id=9).

**Touch Phonics:** a tool designed for at risk, English language learners and students with learning disabilities. [www.epsbooks.com/dynamic/catalog/series.asp?seriesonly=8800M](http://www.epsbooks.com/dynamic/catalog/series.asp?seriesonly=8800M).

**Wilson Reading Program:** a reading and writing program designed for upper elementary and high school students who have difficulty with written language in the areas of decoding and spelling. [www.wilsonlanguage.com](http://www.wilsonlanguage.com).

### Appendix I Differentiated Instructional Strategies to Use with Students who are Deaf or Hard of Hearing

- Use multimedia approaches for visual representation of course content. Overhead projectors or PowerPoint presentations are preferable to blackboards, as the teacher does not need to turn his or her back to the students. This is especially important for students who rely on speechreading, signing, cuing, and/or use of residual hearing for receptive communication.
- Offer vocabulary instruction that is systematic with most effective approaches emphasizing numerous techniques, such as use of semantic maps, semantic feature analyses, word maps, and classroom discussion of words. Overexposure through repetition and varied formats is often essential.
- When using visuals, allow time for students to view the board, overhead, or objects, then to watch the explanation/instruction given by the teacher or interpreter, and only then, allow students to offer responses. A hearing person can view visuals and listen at the same time. Children who are deaf or hard of hearing and rely on visual communication through sign language, cued speech, or speechreading must process information sequentially rather than simultaneously.
- Pre-teach vocabulary for coming science, mathematics and social science lessons in context. Collaboration with the speech and language pathologist and/or resource teacher in this effort can be beneficial. Remember, many children who are deaf or hard of hearing do not learn words incidentally.
- Base instructional strategies on the individual's receptive and expressive communication strengths.
- Provide an enriched language environment that promotes a wide range of meaningful experiences with opportunities for receptive and expressive through-the-air and written language.
- Provide someone in the learning environment with whom the student can interact and who can effectively provide, not only the vocabulary to label objects, but also a language model for expressing concepts and ideas, using the student's primary mode of communication.
- Despite the communication method used, make print an important part of everyday routines, and emphasize the value of reading and writing in varied, meaningful activities throughout the day.
- Partner with parents. Maintain ongoing communication between the home and teachers so that vocabulary and language concepts are reflected and reinforced in as

## Guidelines for D/HH

many different situations as possible. Make families aware of the limitless opportunities in the home for language enrichment during daily routines, and determine whether the family members are able to communicate effectively in the student's chosen mode.

- Prior to reading a selection, encourage class discussions so that students may benefit from one another's connections to the text, building students' background knowledge of concepts and vocabulary.
- For students who sign, ensure that all involved are consistent in the signs being used. Use conceptually based signs and avoid inventing signs for new vocabulary. Be sure that students learn the conceptually accurate signs for phrases and multiple meaning words and use them while reading. Fingerspelling a word may indicate that a student may not know the meaning.
- Guide students to formulate questions first; then answer them by reading. This may help to improve their word recognition skills, comprehension, analytical skills, and ability to draw inferences.
- Reinforce phonemic awareness through visuals (demonstrations, pictures, and software programs) that show placement of articulators.
- Discuss in an IEP team meeting how phonemes will be introduced in a consistent manner. Even students with the most profound hearing losses may benefit from phonemic awareness enhanced with Visual Phonics or Cued Speech.
- Incorporate speaking (signing), listening (receiving communication), writing, and reading activities consistently. Literacy involves all four.
- Teach students who use sign language to deliver oral presentations using more formal registers as appropriate in sign. The interpreter and student should be allowed time together prior to the presentation to ensure that the interpreter is familiar with the material and is rendering an accurate representation of the student's work.
- Remember that language precedes literacy. Students will not understand language expressed in print until they understand that language presented orally or through the air.
- Remember that no instructional strategy, however differentiated, will be effective if the student does not comprehend a speaker's communication attempts.
- Provide an enriched learning environment that promotes a wide range of meaningful experiences with opportunities for reading about and discussion of historic events, past and present.

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- Use more than one mode of presentation for abstract concepts. These may include manipulatives (cubes, puppets, action figures), verbal (word problems matching equations, role playing, debates), pictorial (time lines), and symbolic modes (graphic organizers). Encourage students to translate between sign language and English and to make connections between all modes presented. Pictures, drawing sets, and visualizing or pantomiming of actions may be used to move from the concrete to more abstract representations.
- Relate events in history with students' personal experiences through a dialogic process.
- Emphasize the role of individuals who are deaf or hard of hearing in various events in history.
- Encourage students to process information at a deeper level through questioning.
- Provide an enriched learning environment that promotes a wide range of meaningful experiences with opportunities for exploration and problem solving.
- Note that word problems may be especially difficult for some students who are deaf or hard of hearing because of the literacy level needed to comprehend the problem and what is being asked. Having the interpreter sign the problem may be an appropriate accommodation for some students.
- Introduce mathematical word problems as informal stories with mathematics facts through dramatization, or use of an overhead with manipulatives; then translate the action into a mathematics sentence. Students can also use pictures, drawing sets, and visualizing or pantomiming the action in a problem to move from the concrete to more abstract representations of a word problem.

### Appendix J Deaf Studies Resources

**Biographies:** biographies of famous and historic people who are deaf.  
[www.deafness.about.com/od/articlesandnewsletters/a/famousdeaf.htm](http://www.deafness.about.com/od/articlesandnewsletters/a/famousdeaf.htm).

**Deaf Linx:** information and resources on Deafness including a section for students and families under “Kid’s Stuff.” [www.deaflinx.com](http://www.deaflinx.com).

**Deaf Planet:** an interactive Web site designed for students at grade levels 4-7 which uses ASL as the primary means of communication. [www.deafplanet.com](http://www.deafplanet.com).

**Gallaudet University Library:** deaf-related resources. [www.library.gallaudet.edu/dr](http://www.library.gallaudet.edu/dr).

**Hearing Lesson:** the complete lesson includes: How We Hear, Parts of the Ear, Sound and the Ear, Causes of Hearing Loss, Descriptions of Hearing Aids, Reading Audiograms and more. [www.theitinerantconnection.com](http://www.theitinerantconnection.com) under Contents/Teachers.

**Information on Deafness:** this section of Gallaudet University’s Clerc Center Web site is organized by topics which include assistive devices and hearing aids, communication and sign language, especially for children and their teachers, and more.  
[www.clerccenter.gallaudet.edu/InfoToGo/index.html](http://www.clerccenter.gallaudet.edu/InfoToGo/index.html).

**Knowledge Is Power Curriculum:** a program to develop self-advocacy skills in students who are deaf or hard of hearing, grades K-12. [www.edaud.org/storeindex.cfm](http://www.edaud.org/storeindex.cfm).

**SKI-HI Curriculum:** Literacy, Topic 4, Booksharing, Appendix B: “Examples of Books For and About Children Who are Deaf.” Resource for students to build a sense of identity.  
[www.hopepubl.com](http://www.hopepubl.com).

**Appendix K  
Vocational Rehabilitation Process for  
Transition Referral and Services**

**VR Process for Transition Referral and Services**

*EMPLOYMENT IS THE GOAL OF ALL SERVICES PROVIDED BY THE DEPARTMENT OF REHABILITATIVE SERVICES*

**DRS/LEA COLLABORATIVE ACTIVITIES**

<b>3-4 years prior to school exit</b>	<b>2-3 years prior to school exit</b>	<b>1-2 years prior to school exit</b>	<b>Exit Year</b>
Provide technical assistance/ consultations  Provide public information  Provide education for families and school personnel  Participate on Advisory Councils/Transition Councils  Provide information to students through group settings	Solicit referrals  Screen referrals  Take applications  Conduct intake interview  Determine eligibility  Conduct Career Assessments  Provide Career Development Activities  Provide Benefits Planning Information	Develop IPE  Provide Career Development Activities  Discuss Post-Secondary Education Options  Offer referrals to other agencies/services  Provide Benefits Planning Information  Conduct a Self Advocacy Check	Employment Related Activities  Post-Secondary Education Activities  Independent Living Activities  Vocational Training/Exploration  Higher Education Guidance and Counseling  Job Placement/Job Retention

The above menu of activities is for the purpose of joint planning among LEAs and DRS counselors. It is not meant to be inclusive or prescribed for all students. DRS eligibility criteria, order of selection and a student's willingness to participate may influence a student's ability to benefit from DRS services. DRS Counselors may be invited to attend IEPs on a case by case throughout the process.

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