

GUIDE TO EDUCATION  
OF  
CHILDREN  
WHO ARE DEAF OR  
HARD OF HEARING  
2009

Kansas State Department of Education  
Special Education Services  
June 2009





## Special Education Services

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May 29, 2009

Dear Colleagues,

It is my pleasure to introduce you to the 2009 Guide to Education of Children Who Are Deaf or Hard of Hearing. This document was written to provide families, teachers, and school administrators guidance as they work collaboratively to meet the unique educational needs of students who are deaf or hard of hearing.

The guide focuses on what is special about educational services for children who are deaf or hard of hearing and includes information on best practices in the areas of communication, language, and literacy. The guide also contains numerous references to other valuable resources and documents, such as the National Association of State Directors of Special Education, *Meeting the Needs of Students who are Deaf or Hard of Hearing* (2006) publication, that will be useful when developing and implementing educational services.

This guide was undertaken due to the willingness of educational professionals and parents to come together to develop a practical guide to providing educational services for children who are deaf or hard of hearing. The development was a collaborative effort of many dedicated, talented individuals who deserve our thanks and appreciation.

If you need assistance or have any questions regarding the content of this document, please contact the Special Education Services Team at the Kansas State Department of Education.

Sincerely,

A handwritten signature in black ink that reads "Colleen". The signature is written in a cursive, flowing style.

Colleen Riley  
Director

## Introduction

The primary purpose of this guide is to provide information and resources for families, teachers, administrators and others working with children who are deaf or hard of hearing (D/HH). **This guide focuses on what is special about education services for children who are D/HH, particularly in the areas of communication, language, and literacy.**

Children who are D/HH often have significant and unique educational needs. Although a hearing loss does not affect an individual's intellectual capacity or ability to learn, it can interrupt the developmental process for acquiring language. When interventions do not occur early, the impact on cognitive development, social development, and later educational progress can be affected. A hearing loss has a continual impact on daily learning experiences. Since a child who is D/HH misses out on incidental language, they may experience gaps in English language use and in general knowledge. This effect is known as the "swiss cheese effect." For many children, some form of special education services is required in order for the child who is D/HH to receive an appropriate education. For information regarding the legal requirements applicable to special education services for children who are D/HH, please refer to the following document:

Kansas State Department of Education, Special Education Services. (2008). *Special education process handbook*. Topeka: Author.

Additionally, this guide references the following additional companion document frequently:

National Association of State Directors of Special Education (NASDSE). (2006). *Meeting the needs of students who are deaf or hard of hearing: Educational service guidelines*. Alexandria, VA: Author.

Readers should also note that there are several supporting KSDE documents referenced that address the needs of children who are D/HH. These documents are:

Kansas State Department of Education, Student Support Services. (2003). *Guidelines for interpreters in the educational setting for students who are deaf and hard-of-hearing*. Topeka: Author.

Kansas State Department of Education, Student Support Services. (2004). *Hearing screening guidelines and resource manual*. Topeka: Author.

Kansas State Department of Education, Student Support Services. (2005). *Speech-language guidelines for schools: With a focus on research-based practices*. Topeka: Author.

The American Deaf Community is a linguistic minority group. The term "Deaf culture" specifically represents members of the collective Deaf community who share a common language (ASL) and common values, norms, and behaviors (Battat, n.d.). The Deaf culture has considered the label *Deaf* as an affirming statement of group membership. The World Federation of the Deaf (WFD) voted in 1991 to use *deaf or hard of hearing* as an official designation; however, federal and state statutes use the term *hearing impaired*, which was developed to include people with hearing loss due to aging, accidents, and other causes. It is important that individuals, teachers, and agencies working with families be aware of the difference between preferred terminology and the statutory language so they can demonstrate sensitivity to cultural differences influencing family response. Service providers should be aware that some parents want their child affiliated with the Deaf culture and some do not make that choice. In order to support families and students effectively, service providers should be knowledgeable about family preferences.

This guide was developed by dedicated practitioners in Kansas schools who work with children who are D/HH. The guide is a reflection of their knowledge and experiences, as well as scientifically-based research and practices in the field of D/HH. Kansas State Department of Education, Special Education Services (SES), acknowledges the work, expertise and commitment of the core writing team, as well as the field reviewers from across the State who provided input into the process.

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# Guide to the Education of Children Who Are Deaf or Hard of Hearing

## TABLE OF CONTENTS

Letter from the Director, Special Education Services.....	i
Introduction.....	ii
Table of Contents .....	iv

### Chapter One. PROFESSIONALS WORKING WITH CHILDREN WHO ARE DEAF OR HARD OF HEARING

Roles and Responsibilities .....	1 - 1
Teachers of the Deaf or Hard of Hearing .....	1 - 1
Roles of Additional Professionals Specific to Children Who Are Deaf or Hard of Hearing .....	1 - 3

### Chapter Two. IDENTIFICATION OF CHILDREN WHO ARE DEAF OR HARD OF HEARING

Screening.....	2 - 1
Evaluation .....	2 - 2

### Chapter Three. COMMUNICATION AND LANGUAGE DEVELOPMENT

Early Access to Communication and Language.....	3 - 1
Development of Visual Communication .....	3 - 2
Development of Auditory/Oral Communication .....	3 - 4
Child-Directed Language .....	3 - 6
Cognitive Development .....	3 - 6
Language and Vocabulary Development .....	3 - 6
Providers of Language Models.....	3 - 7

### Chapter Four. COMMUNICATION AND LANGUAGE PLANNING

Language Choices .....	4 - 1
Communication Modes .....	4 - 2
Instructional Methodologies .....	4 - 2
Communication Plan .....	4 - 4

## Chapter Five. LITERACY

Language and Literacy Connections.....	5 - 1
Literacy Environments and Support .....	5 - 1
Supporting Early Literacy Development .....	5 - 2
Reading to Children Who Are Deaf or Hard of Hearing and Supports for Parents .....	5 - 3
Components of Effective Reading Programs .....	5 - 5
Writing.....	5 - 7
Metacognition and Metalinguistics .....	5 - 7

## Chapter Six. EDUCATIONAL ENVIRONMENT

Language and Communication Needs.....	6 - 1
Level of Hearing .....	6 - 1
Academic Needs.....	6 - 2
Social, Emotional, Cultural Needs.....	6 - 2
Educational Placement .....	6 - 3

## Chapter Seven. ADDITIONAL CONSIDERATIONS

Assistive Technologies.....	7 - 1
Progress Monitoring .....	7 - 3
Transition .....	7 - 3

## References

- Appendix A: Assessments
- Appendix B: Communication Plan Template
- Appendix C: Resources



## Chapter One

### PROFESSIONALS WORKING WITH CHILDREN WHO ARE DEAF OR HARD OF HEARING

#### Roles and Responsibilities

Children who are D/HH have a wide range of needs and may have additional exceptionalities. Collaboration among professionals providing services to children is essential to ensure each child is successful. Teachers of the deaf or hard of hearing, speech-language pathologists (SLPs), American Sign Language (ASL) specialists, educational audiologists, and many others are uniquely qualified to provide services which will develop communicative competence and improve learning for children who are D/HH.

The document, Meeting the Needs of Students Who Are Deaf or Hard of Hearing (NASDSE, 2006, pp. 63-82) identified eight recommendations around personnel who work with children who are D/HH and provides a thorough discussion of each.

Educational personnel who work with students who are D/HH should:

- (1) be proficient in the language that provides the best possible access to content and be able to communicate with students in ways that facilitate continuous language and literacy development and learning;
- (2) have the specialized knowledge, skills and disposition needed to promote the development and learning of students who are D/HH;
- (3) have the knowledge, skills and dispositions to work with D/HH children from diverse ethnic, cultural, and linguistic backgrounds;
- (4) meet the wide range of typical and atypical development and learning needs of D/HH children (e.g., students who have cochlear implants, multiple disabilities, special behavioral or health needs) and incorporate the principles of universal design for learning to meet those diverse needs;
- (5) have the specialized knowledge and skills to provide ongoing, appropriate assessments of students' development and needs;
- (6) be knowledgeable of ways to promote collaboration between schools, families and communities;
- (7) work collaboratively with personnel in other schools and programs in sharing resources, utilizing centers of excellence and promoting research-based and promising educational practices for D/HH students; and
- (8) participate in ongoing professional development activities in order to provide the most effective programs and instructional approaches to students who are D/HH.

#### Teachers of the Deaf or Hard of Hearing (TODs)

Teachers of the Deaf or Hard of Hearing (TODs) must be licensed with the hearing impaired endorsement. TODs have a variety of responsibilities including, but not limited to, the following:

- (1) establish a learning environment within general and special education settings to meet the physical, cognitive, cultural, linguistic, and communicative needs of the child;
- (2) provide instruction to other educational staff members working with children who are D/HH on effective teaching strategies, appropriate materials, and resources for implementing educational experiences that support the development of literacy and communicative competence;

- (3) apply bilingual, auditory/oral, or other teaching strategies to teaching literacy;
- (4) facilitate and support communication among children and adults who are D/HH, hearing children and adults, including family and caregivers;
- (5) monitor and evaluate the child's literacy and communicative competence on a regular basis in academic and non-academic contexts, including the child's use of signs, social cues speech, visual assistive technologies, and/or auditory/oral competencies using hearing technologies;
- (6) provide instruction and/or support to other educational staff members for effective use of communication supports, such as interpreting, transliteration, note-taking, real-time captioning, and telecommunications, and hearing technologies;
- (7) have knowledge of curriculum standards and use them to guide evaluations, IEP development, and instructional planning;
- (8) participate in the development and implementation of Individualized Family Service Plans (IFSP);
- (9) develop a Communication Plan unique to the child who is D/HH with the assistance of family and IFSP/IEP team members and implement such plan into the educational delivery areas;
- (10) supervise and evaluate paraprofessionals and assist in planning for their professional development opportunities;
- (11) supervise interpreters and assist in planning for their professional development opportunities. If a school district has access to an interpreter coordinator/manager then this person would supervise and evaluate. Teachers of the deaf will evaluate interpreters only if properly trained; and
- (12) perform routine checks of individual hearing aids, cochlear implants, and FM systems, trouble shoot problems, provide maintenance and repair services (i.e., replace batteries, clean ear molds, change FM cord or boot) and refer to parent and managing audiologist to evaluate need for additional repair services.

Teachers of children who are D/HH may provide direct or consultative services within the public school system or community network. Teachers of the Deaf may provide services in several schools, districts, or networks within a full continuum of settings including an itinerant position, consultative, co-teach with a general education teacher, or provide services in a self-contained classroom specific to children who are D/HH. Services may include any assistance which enables a child to increase his or her competence and have his or her individual needs met as described in an IEP. Services include professional direct services, itinerant services, consultative services, and collaborative services.

**Direct services** provided by TODs may include, but are not limited to, the following:

- (1) teaching concepts and vocabulary commonly known by hearing peers that contribute to a student's understanding of academic information;
- (2) providing instruction for specific skill areas of need within the general education curriculum;
- (3) providing vocabulary enrichment and language development for all areas of communication (e.g. expressive, receptive, written, spoken, etc.);
- (4) providing instruction for self-advocacy skills;
- (5) providing instruction in speechreading and auditory training;
- (6) teaching test taking and/or study skills;
- (7) providing social, emotional, and behavioral instruction;
- (8) providing instruction in how to use an interpreter; and
- (9) providing instruction on current assistive technology.

**Indirect services** provided by TODs may include, but are not limited to, the following:

- (1) providing orientation to school personnel in regard to the educational implications of varying degrees of hearing acuity;
- (2) instructing educational staff members on effective teaching strategies, curriculum accommodations, adaptations, and/or modifications, use of interpreters, assistive visual and hearing technology, management of physical environment (i.e. visually and acoustically);
- (3) facilitating support services to access communication in the general education setting (i.e. note takers or captioning); and
- (4) facilitating communication with families (e.g., teaching sign language, if qualified, or locating community classes).

### **Roles of Additional Professionals Specific to Children Who Are Deaf or Hard of Hearing**

There are a variety of professionals who work with children who are D/HH. A comprehensive list of many organizations' standards for personnel working with students who are D/HH has been compiled in the document, *Meeting the Needs of Students Who Are Deaf or Hard of Hearing* (NASDSE, 2006). The following descriptions detail several of the professional roles in the education of children who are D/HH:

**(1) American Sign Language (ASL) Specialist.** An ASL specialist works with the teaching staff and parents to identify and provide services to children and families as they relate to bilingual needs. They are responsible to assess the child's ASL skills (i.e. receptive and expressive) for evaluations and reevaluations, to develop IEP goals, to work with teachers to plan, implement and complete ASL assessments, and to work with children one on one and/or in groups to develop ASL skills. In most cases, an ASL specialist is found in State schools for the deaf or hard of hearing or in large metropolitan areas.

**(2) Deaf Role Model.** A deaf role model is a supervised member of the community who serves as a language model for birth through high school aged children. A deaf role model should model sign language skills congruent to the child, have a basic understanding of literacy and child development, and work with the Early Intervention Service Provider or TOD to model language goals written in an IFSP/IEP.

**(3) Early Intervention Service Provider (EI).** The early interventionist should have an educational background or experiences that include knowledge and skills from the following disciplines: deaf education, special education, early childhood education, language and literacy, communication sciences, mental health and family studies. (NASDSE, 2006).

**(4) Educational Audiologist.** Educational audiologists are licensed to provide evaluation services in the identification and rehabilitation of children with a suspected hearing loss. The educational audiologist is responsible for providing comprehensive hearing evaluations, initial, and ongoing evaluations. A narrative report is typically attached to the audiogram explaining the results of the evaluation, educational impact within a classroom environment, and recommendations for assistive hearing devices. They are responsible for providing and fitting appropriate classroom hearing technologies, when deemed appropriate by the IEP team. Services also include assisting in the maintenance of hearing aids, cochlear implants, and FM systems, and may participate in the development and implementation of auditory rehabilitation services. Auditory (re)habilitation is provided to children using hearing aids and/or cochlear implants. Educational audiologists may also provide in-

service and/or consultation to teachers and staff on issues of hearing loss, acoustics, and assistive hearing technologies.

**(5) General Education Teacher.** A general education teacher is a valued team member working in collaboration with the TOD. Their knowledge of curriculum, instruction, and child learning is critically important to providing effective services for children who are D/HH. They are the primary teacher when a child is included in a general education classroom.

**(6) Interpreter.** An educational interpreter is a professional responsible for unbiased facilitation of communication. They should adhere to the *Kansas Guidelines for Interpreters in the Educational Setting for Students Who Are Deaf and Hard of Hearing* (KSDE, 2003) and the *Code of Professional Conduct* (Registry of Interpreters for the Deaf, 2005). The primary role of an interpreter in the classroom is facilitation of child-to-teacher and child-to-peer communication. Additional duties must be under the direction of the supervising TOD (preferably), special education director, principal, or special education teacher.

**(7) Pediatric Audiologist.** A pediatric audiologist specializes in identifying hearing loss in infants and young children. The pediatric test battery may consist of a comprehensive case history, Auditory Brainstem Response (ABR) testing, transient or distortion product evoked otoacoustic auditory emissions (OAEs), high frequency probe tone tympanometry, behavioral observation/audiometry, and hearing aid fitting with real ear measurements. They are familiar with the procedures for acquiring hearing aids and/or assistive hearing technology, and works collaboratively with other professionals in determining cochlear implant candidacy.

**(8) School Psychologist.** A school psychologist acts as an interdisciplinary team member in the special education eligibility process. They are qualified to administer cognitive, behavioral, and academic assessments. They articulate test results to parents and eligibility team members. School psychologists who administer, interpret and analyze personality and achievement assessments should have adequate experience in working with children who are D/HH.

**(9) Speech-Language Pathologist (SLP).** An SLP has specialized training to work with children with articulation, language, and communication delays and disorders and are an important member of the collaborative team. Some SLPs may have extensive training in working with children who are D/HH while others may choose to seek additional training opportunities. They assist in addressing the complex interplay of listening, speaking, signing, reading, writing, and thinking. SLPs contribute to a child's communicative competence and academic achievement, including literacy. Speech-Language Pathologists also assist in the assessment process, particularly spoken language, speech skills and speechreading skills. SLPs often provide support to learners using assistive hearing technologies

**(10) Other Special Education and Related Services Staff Members.** In many situations, other special education and related services staff members will be in contact with and work with children who are D/HH. Other staff might include an interrelated resource classroom teacher (IRC), occupational therapist (OTR), physical therapist (RPT), mobility specialist (COMS), teacher of the visually impaired (TVI), Title I teacher, literacy coach, general education teacher, and at-risk teacher. These individuals are part of the team working together to deliver educational services for D/HH children.

## Chapter Two

### SCREENING AND EVALUATION OF CHILDREN WHO ARE DEAF OR HARD OF HEARING

Public agencies, including schools, have responsibilities for identifying and evaluating a hearing loss and other disabilities in children as early as possible, known as child find. The documents, *Hearing Screening Guidelines and Resource Manual* (KSDE, 2004) and *The Special Education Process Handbook* (KSDE, 2008) provide a complete description of these processes.

#### Screening

Early identification of a hearing loss, combined with effective intervention, offers a means for positively impacting the language, communication, and speech abilities of children who are D/HH. Teachers of the deaf and hard of hearing and other professionals should be connected with families at the onset of identification. Providing effective support to families empowers parents to make informed decisions and take positive action on behalf of their child before language and communication deficits occur. Families need accurate, accessible, and current information to support their understanding and decision-making. The following descriptions contain information about the types of screenings children who are suspected D/HH may encounter.

**(1) Early Childhood Screenings.** Early childhood screenings are conducted for children from birth to age five. Vision, hearing, speech, language, cognitive, motor, and behavior skills are screened. Through early identification, a child's unique needs can be documented so that early intervention may be provided. Screening determines a child's need for an initial evaluation and may include observations, instruments, measures, and techniques that indicate potential developmental delays. Recommendations are made to the parents based on the results of the early childhood screenings. Some children may be referred for a special education initial evaluation following early childhood screenings.

IDEA Part B screening requirements overlap Part C Infant Toddler screening requirements, so local school districts should work collaboratively with their local Part C Infant-Toddler Network providers to ensure all children have access to screening in a timely manner. *Sound Beginnings* is the hearing screening program for children birth to age three implemented through the Kansas Department of Health and Environment (KDHE). A resource guide for *Sound Beginnings* may be obtained from the KDHE website (see Appendix C for Sound Beginnings website). Also implemented through KDHE, Kansas Statute 65-1,157a, known as the Newborn Infant Hearing Screening Act, requires birthing facilities in Kansas to conduct a hearing screening for every child born in the state of Kansas, in order to detect significant hearing loss. If an infant does not pass the hearing screening, additional testing is needed to determine if the infant has a hearing loss, whether the hearing loss is medically treatable, what the degree of hearing (amount) loss is, and what the configuration (shape) of the hearing loss is.

**(3) School-Age Hearing Screenings.** Kansas law requires public schools to conduct hearing screenings with a calibrated audiometer for all school age children at no cost to families (K.S.A. 72-1205). The law requires schools to screen the hearing of all children at entry to school and at least once every three years, but once per year for grades K-3 is recommended (KSDE, 2004). These screenings are conducted by competent, local board designated individuals, usually hearing technicians, school nurses, or contracted agencies. Results and any recommendation for more testing must be provided to parents (K.S.A. 72-1205),

and a qualified professional also should be made aware of all children who receive referrals for further testing during this screening process. This includes referrals for pure tone and/or tympanometry tests. For more information on school-age hearing screenings refer to the Hearing Screening Guidelines and Resource Manual (KSDE, 2004).

**(4) General Education Interventions (GEI).** In Kansas, screening for school-age children is conducted, in part, through GEI (See K.A.R. 91-40-7). GEI is a building-level, problem-solving process for assisting children with academic or behavioral concerns and is a way to identify and evaluate school-aged children with exceptionalities. The data gathered through GEI assist school personnel in determining which children may be children with exceptionalities who need to be referred for a special education evaluation. GEI may be carried out through a school-wide multi-tier system of supports (MTSS) using scientifically, research-based interventions for all children (see Appendix C for MTSS web site) or through an individual child problem solving approach (e.g., Student Intervention Team (SIT)). The opportunity to identify appropriate, effective instructional strategies and accommodations that will support the child being a successful learner, potentially without the need to be referred for special education, occurs during the GEI process. Regardless of the approach used, the focus should be on designing supports for children who need additional assistance in order to be successful in the general education curriculum and environment.

When a child is suspected of having a hearing loss or has any condition affecting hearing, the GEI team members should notify the TOD and work together to address the needs of the child. Accommodations might include assistive technologies that support the child's access to the general education classroom. GEI should not delay referring a child for an evaluation to determine eligibility once a child is suspected of having a disability under IDEA, and GEI can be carried out during the evaluation and as part of an ongoing process of progress monitoring (KSDE, 2008).

## Evaluation

The information obtained during the screening process is used to determine whether to refer a particular child for further evaluation to identify hearing loss and/or determine eligibility for special education services. If a referral for a special education evaluation is made, the evaluation procedures required by special education laws and regulations should be followed (see Appendix C for Kansas Special Education Process Handbook, 2008).

Assessments used in the evaluation of students who are D/HH may be standardized and/or criterion-based, and should include age-appropriate observations of a child in both structured and non-structured environments (NASDSE, 2006). The evaluation should provide information about "...the impact of hearing loss on the child's language development and acquisition, and evaluators should be qualified and knowledgeable of deafness and be able to communicate with the child" (NASDSE, 2006, p. 43-44). Further, evaluators should recognize the central role families play and be sensitive to the personal needs, background and culture, aspirations, expectations and lifestyles of families, which vary significantly. For young children especially, the family will impact "...decision-making regarding language and communication approaches, educational placement, and support services" (NASDSE, 2006, p. 43). The following descriptions address areas of assessment used in the evaluation of students who are D/HH:

**(1) Audiological Evaluation.** Assessment for children who are suspected of having a hearing loss begins with a comprehensive audiological evaluation. The audiological evaluation and the history of the child's hearing is an important part of the evaluation information. In addition to the audiogram, the audiological

report should include information about the communication situations and environments where the child can be expected to have difficulty. A functional listening evaluation should be a part of the evaluation (see Appendix C for website).

- (2) **Hearing Evaluations.** Parents and school staff need to work together to ensure that a child with a suspected hearing loss is evaluated by a licensed audiologist. An audiological evaluation alone does not completely define the functional hearing of the child or the ability of the child to learn through auditory or visual modalities. Not all children who are D/HH with a similar audiological evaluation will function in the same manner even with amplification or implantation. The evaluation team should address how a child uses his/her hearing in multiple settings and under various conditions (varied input complexity, various types of background noise and different modes of input), with and without amplification.
- (3) **Impact of Deafness.** Deafness means that the hearing loss impedes the child's ability to listen *with comprehension* in a variety of quiet and noisy environments. The educational environment includes all areas in the school environment such as the classroom, halls, lunch room, gym, and/or library. There may be settings where the child may be able, with the benefit of hearing aid(s), cochlear implant(s), and/or assistive listening device, to listen with comprehension in a variety of educational settings. In other settings, listening may be challenging for the child and more visual information may be needed.

A child with a **moderate or greater bilateral hearing loss** may experience a significant barrier to communication through auditory means. A complete evaluation will assist in determining the potential impact of this hearing loss on the child's educational performance. A child with a moderate or greater bilateral hearing loss who is managed through cochlear implantation or hearing aids may not necessarily need visual means to communicate. While some children who have been immersed in an auditory-verbal program may need visual support in the form of speech reading or text, with a primary focus on listening for meaning.

Establishing the significance of a **mild bilateral or unilateral hearing loss** on educational performance poses a greater challenge to the evaluation process. For these children, speech and language skills often develop normally in the early years. There are times when a hearing loss is not identified until school age when social, behavioral, academic and/or communication and literacy needs appear.

Children with a mild hearing loss, a unilateral hearing loss, or a progressive or fluctuating hearing loss may appear to hear clearly in some situations; however, they may not be able to hear with comprehension in other situations. These children may demonstrate academic/literacy delays and may experience difficulty in understanding speech in background noise. Often, these children, when given appropriate supports, develop strategies to compensate for their hearing loss, gain confidence, and are able to advocate for their hearing and communication needs. There are children, especially young children, who experience fluctuations in hearing that adversely affect their language development and educational performance. Even children with a permanent hearing loss may experience fluctuations in hearing due to ear infections. During these periods, children may not be able to use their hearing aids compounding the child's inability to hear.

- (4) **Academic Performance.** Most children enter school with a basic command of language, an extensive vocabulary, and ability to process linguistic information. Schools design curriculum to build on the existing language skills of typically developing children. Children who are D/HH seldom bring to school

the same extensive language base. Limited access to incidental learning through everyday opportunities for direct interaction with peers and adults inhibits the language development of these children. It is important to consider the academic potential of the child along with performance and to understand how the hearing loss impacts the child's ability to develop language and literacy skills comparable to hearing peers of the same age level. When assessing a child's language and academic competency, conversational language as well as academic language needs to be addressed. If the child demonstrates the characteristics of language delay typical to children with a hearing loss, then the child may be in need of special education. If identification of a delay and remediation occur early so that the child can develop a strong language base, the child is more likely to participate fully in the general curriculum at grade level.

When evaluating a child ages birth to five, the team should consider previous interventions and their effects including family involvement, therapy, and exposure to early literacy activities. A young child who has received supports may be ready to enter school functioning at a level comparable to non-disabled peers. It is important for the evaluation team to consider the type and level of support that has been provided and that which may need to continue in order for the child to participate in and benefit from the general curriculum or age appropriate activities.

The most common impact of a hearing loss on academics is in the area of **literacy** skills. Successful reading depends on multiple factors including general world knowledge, effective decoding skills, vocabulary, listening and reading comprehension, understanding questions, exposure to language and early literacy, and experience with print. Writing is dependent on good reading skills. Literacy competency is the heart of educational performance. The ability to read with comprehension and to read for information is the center of academic success, and children who are D/HH often experience challenges in this academic area.

- (5) **Speech Perception and /or Production.** Speech perception and/or production are affected by the ability to hear and decode the acoustic information in speech. Most children with a hearing loss will know that someone is speaking, but depending on the degree of hearing loss and benefit from hearing technologies, the message may be distorted or diminished such that the listener misses many acoustic cues. Often, this will result in errors in the child's own speech production. During group situations, such as class discussion, or in noisy situations, such as small group activities, these children may not be able to follow the dialogue, grasp the main points, or learn new concepts and vocabulary. This may lead to delays in language and curricular knowledge and use. Weak speech perception and production can impact a child's confidence in participating in discussion or verbal exchange. Common behavioral indicators of frustration are acting-out or withdrawal. Teachers of the deaf, speech language pathologists, and educational audiologists are key professionals in helping to interface the child's abilities with the listening and learning demands of the classroom. A comprehensive speech and language evaluation should be a part of the evaluation.
- (6) **Language and Communication Skills.** Davila (1992), published a *Notice of Policy Guidance in the Federal Register*, Office of Special Education Programs (OSEP) regarding the provision of appropriate educational services for children who are deaf or hard of hearing. *The Notice from OSEP* (Davila, 1992) emphasized the need for IEP teams to conduct comprehensive evaluations of language development along with the language potential of the child being evaluated. The needs of children with a mild to moderate hearing loss and those with a unilateral hearing loss may also be educationally significant due to the complex and invisible nature of the disability.

Language is at the heart of human development. Language connects us to information and to each other. Children with a hearing loss may have gaps in basic language skills in everyday conversation and even more so with academic language. Language evaluations should assess production, perception, pragmatics, semantics, and syntax both academically and functionally. This analysis has an additional component when the child uses ASL. Since ASL is a language that has its own pragmatic, grammatical, and semantic rules, vocabularies in both English and ASL must be assessed.

In addition to assessing reading competency, effective communication skills, including speech, language and conversational skills, is the need to address social skills and self-esteem. Inability to directly communicate with peers has a negative impact on academic success, social development, and self-esteem. The IDEA (2004) included the consideration of opportunities for direct communication between peers and staff for children who are D/HH. Direct communication is vital in building strong language skill as a basis for reading competency as well as the social skills needed to be successful in the community. Direct communication does not mean through the use of an interpreter, but includes the potential for the child to communicate on their own with classmates and others in school (57 Fed. Reg. 49274 (Oct. 30, 1992)).

- (7) **Assessing for Participation in the Regular Classroom for Children who are D/HH.** Easterbrooks (1998), identified essential considerations in determining whether full participation in general education is or is not an appropriate option for children who are D/HH. The four factors identified as the most predictive of successful participation in the general education setting are: verbal achievement, receptive language compared with normally hearing peers, expressive language compared with normally hearing peers, and reading achievement.
- **Verbal Ability.** In the general education classroom, thinking using language forms the foundation of most of the instruction and learning. Verbal ability is assessed via the verbal subtests of some cognitive measurement tools which yield a Verbal Intelligence Quotient or Verbal IQ. The verbal subtests are designed to tap the child's knowledge of information learned in school and through incidental learning experiences accessed via audition. However, as a deaf child has not had full auditory access to communication, the scores obtained on the verbal subtests would not reflect verbal intelligence, it would reflect the impact of the child's hearing loss on his/her fund of knowledge via language and ability to use language for problem-solving. School Psychologists trained to work with deaf students are well acquainted with the different assessment tools available to assess verbal ability.
  - **Receptive Language.** For **programming** purposes, assessment of language compared to deaf norms or based on criterion measures may be the best measures to use. However, for **placement** purposes, a comparison to children with normal hearing provides a better measure of how well the child will function in a general education classroom setting (see Appendix A for appropriate testing materials in this area).
  - **Expressive Language.** Expressive language measures carry the same caveat as receptive measures. Be sure to differentiate between placement testing and testing for programming purposes. Comparisons to hearing children are essential to determine how well the child will be able to "hold his/her own" in the verbal environment (see Appendix A for appropriate testing materials in this area).

- **Reading Achievement.** A considerable amount of instructional and other learning time is spent with children engaged in reading. The child who cannot read at or near the requirements of the class is at great risk for frustration and failure. This is probably the most important consideration (see Appendix A for appropriate testing materials in this area).

The evaluation data collected through these areas of assessment should be reviewed in such a way as to understand the extent of the child's needs and to describe the intensity of the support needed in assisting the child with accessing and progressing in the general education curriculum. In the case of an evaluation for special education and related services, the information must also be sufficient to determine if the child meets the definition of one of the categories of exceptionality according to state special education laws and regulations. (K.A.R. 91-40-1(k)(w)). Kansas Special Education Regulations (K.A.R. 91-40-1(cc)) define the term "hearing impairment" as "an impairment in hearing, whether permanent, or fluctuating, that adversely affects a child's educational performance . . ." The term "deafness" is defined as "a hearing impairment so severe that it impairs a child's ability to process linguistic information through hearing, with or without amplification, and adversely affects the child's educational performance" (K.A.R. 91-40-1(p)). NASDSE (2006, July) suggests, "... that by nature of the sensory impairment, a child with a bilateral or unilateral loss meets the disability aspect of eligibility for special education services because IDEA and its regulations do not define a minimum decibel loss requirement" (p. 41). Further, the term *adverse* is not defined in statute or regulation and should be interpreted according to its plain meaning. It is not meant, in defining categories of disabilities, to connote a harsh or extreme disadvantage. Having an adverse effect means that the disability makes receiving an educational benefit more difficult for the child who has the disability. Teams must also use the evaluation information to determine whether the child meets the second prong of eligibility for special education services; specifically, whether the child needs special education and related services as a result of his/her exceptionality. The term, "special education" means specially designed instruction (K.A.R. 91-40-1(kkk); 34 C.F.R. 3000.39(a)(1)), and the term "specially designed instruction" means adapting the content, methodology or delivery of instruction to address the unique needs of the child and to ensure access of any child to the general education curriculum ( K.A.R. 91-40-1 (III); 34 C.F.R. 300.39(b)(i)-(iii)). Kansas Regulations (K.A.R. 28-4-550(h)(1)-(2)) define eligibility for services in the Infant-Toddler program and the Kansas Department of Health and Environment implements infant-toddler special education services for children ages birth to three (see Appendix C for KDHE/Infant Toddler website).

## Chapter Three

### COMMUNICATION AND LANGUAGE DEVELOPMENT

The primary goal of communication and language development should be to support the child in developing functional communication. The inclusion of the word *functional* is important because it assumes that communication can be used across environments (including the home, with more than one adult, and with peers in academic and social settings). Providing complete information to parents about the child's hearing loss, its impact on communication, and the various communication modes so that they can make important decisions about preferred modes of communication are all critical. It is important to begin this work as early as possible. The brain's development at birth is not fixed; rather, it changes in response to a growing child's life experiences. The emerging communication skills significantly impact, and are impacted by, other areas of the child's development. This makes early childhood one of the most important times for prevention and intervention efforts.

Early identification of hearing loss and early intervention "are highly related to normal language development of deaf and hard of hearing children . . . Results indicate that language development is significantly delayed when identification of hearing loss and intervention occur later than six-months." (Yoshinaga-Itano & Apuzzo, 1998.) When children with permanent hearing loss are identified during the first few months of life and enroll in early intervention services delivered by properly trained staff they are able to progress at age-appropriate rates (Kennedy et al., 2006; Moeller, 2000).

Maternal sensitivity appears to be more important for language gain for children who are deaf than children who are hearing. When there is a failure to generate a reciprocal communication system, a sense of powerlessness may be generated, leading to increased efforts to control interactions and a self-perpetuating cycle of reduced interactive language stimulation. The emotional impact of the identification of a child who is deaf or hard of hearing on parents who are hearing may also contribute to ambivalence, grief, anger, guilt, or denial with negative effects on dyadic interactions (Meadow-Orlans, Spencer, & Koester, 2004).

Special education services should focus on the development of functional communication for every child who is D/HH. The following suggestions for supporting the development of functional communication come from the fields of deaf education and speech-language pathology.

#### Early Access to Communication and Language

Although young children who begin school with communication skills that lag behind their peers are not doomed for school failure, communication differences can have a lasting impact on a student's academic success (Shonkoff & Meisels, 2000). Well designed and successfully implemented early intervention services can result in improved communicative and academic abilities, functioning, and participation for young children with impaired or delayed communication abilities (ASHA, 2004). Siegel (2000) states that a child's communication needs should drive the early childhood services received. The Joint Committee on Infant Hearing (2007) describes successful early intervention programs. These programs (1) are family centered, (2) provide families with unbiased information on all options regarding approaches to communication, (3) monitor development at 6-month intervals with norm-referenced instruments, (4) include individuals who are deaf or hard of hearing, (5) provide services in a natural environment in the home or in the center, (6) offer high-quality service regardless of where the family lives, (7) obtain informed consent, (8) are sensitive to cultural and language differences and provide accommodations as needed, and (9) conduct annual surveys of parent satisfaction. High quality early

intervention should include an understanding of how children learn, an intervention focus that is functional and meaningful, and a focus on the child as part of a family system.

Early childhood services need to support developmental opportunities in all areas; but most importantly for children who are D/HH services in the area of communication and language *must* be supported. The expectation is that children will gain age appropriate language and communication skills through early intervention. The early intervention service providers across the country, through the Technical Assistance (TA) Communities, have agreed upon Mission and Key Principles for providing early intervention in natural environments (see Appendix C for TA Communities website).

It is essential that interventions be designed to be both developmentally and individually appropriate. Young children are active learners whose experiences shape their understanding of the world; *play* is an important context for that learning. Play provides young children with an opportunity to practice newly acquired skills in safe and motivating contexts (Bredekamp & Copple, 1997). In the same way, the selection of functional intervention targets supports the understanding that children learn best when they are engaged in activities that are meaningful and motivating to their lives (Hull, Capone, Giangreco, & Ross-Allen, 1996). Therefore, it is important that educators working with children who are D/HH work with team members and families to select functional communication targets and help family members acquire strategies they can use to facilitate a child's acquisition of those targets. In this way, each child's unique needs can be accommodated and intervention efforts can generalize to authentic situations.

Families are at the heart of quality intervention for infants, toddlers, and preschoolers with identified hearing losses. Educators evaluating babies and young children who are D/HH place parents in a central role in the process. Kansas families encompass diverse backgrounds, beliefs, and opinions about what is important and how interventions should be implemented for their children. Specific intervention practices should be individualized, not only for a child, but also for that child's family and situation (Sandall, McLean, & Smith, 2000). It is important to involve families at all levels of the educational system, especially during the early childhood years. Interventions for young children should be designed to:

- Help family members identify and learn the communication mode chosen for and/or by a child. The support needed for signing development is similar to support needed for verbal language development. The Deaf Mentoring Program is a resource for families learning ASL. (See Appendix C for links to the Deaf Mentor Curriculum and Deaf Mentor Project)
- Capitalize on strengths and address weaknesses that affect language-communication development and use within the family.
- Facilitate participation in age appropriate activities by assisting the child to acquire new communication skills and strategies.
- Modify contextual factors to reduce barriers and enhance facilitators of successful communication and participation.
- Provide appropriate accommodations and other supports, as well as training in how to use them.
- Facilitate the child's development of functional communication.

### **Development of Visual Communication**

The visual channel is used to take in language and to inspect objects in the environment. Children exposed to visual communication must learn to sustain visual attention if they are to receive linguistic input and be able to participate in signed conversations of any length. Even if a family chooses to use spoken language,

D/HH children must become attentive to visual environmental clues. They must also learn to divide their visual attention between the person communicating and the object being discussed (Meadow-Orlans, Spencer, & Koester, 2004). For many D/HH children, the auditory pathway is insufficient to use for learning language. The National Association of Directors of Special Education (2006) report,

Children with hearing loss may experience delayed linguistic and emotional development during this initial period due to a number of factors, particularly the sensory deprivation that is a result of hearing loss and the close interaction (between parent/guardian and child) associated with hearing and listening. (p. 32)

**(1) Attention Getting.** To begin this process of learning to attend visually, parents who are deaf are very active in seeking the child's attention. One of their behaviors for overt attention getting includes tapping. The ability to respond to a tap as a signal for attention to another person is not present from birth and is in fact a cognitive skill (Spencer, Erting, & Marschark, 2000). Situations are created where looking at the parent/guardian can be reinforced by providing positive feedback.

**(2) Attending (including joint attention).** Attending is a range of skills and for this discussion will not include skills requiring hearing. Attending skills and behaviors include such things as eye contact, cessation of activity to watch a person or thing, acknowledging another person, and interaction with a person and objects. Joint attention implies the child will attend to the same object or activity as another person, for a sustained amount of time. Of the three different ways that infants achieve joint attention (supported joint attention, coordinated joint attention and symbol-infused joint attention); parents who are deaf with children who are deaf spend significantly more time than those who are hearing with children who are deaf in coordinated joint attention (Spencer, Erting, & Marschark, 2000). Parents who are deaf have special discourse strategies and scaffolding behaviors to establish joint attention with their child who is deaf (Meadow-Orlans, Spencer, & Koester, 2004). A necessary adaptation for the child who is deaf involves shifting visual attention from the communicator to the object under discussion. Parents must wait for the infant to look back to them before signing or responding to the child's focus of attention. This ability to coordinate gaze patterns is of particular significance for a child who is deaf who relies on vision for dual purposes: receptive language and exploration of the physical world (Meadow-Orlans, Spencer, & Koester, 2004).

**(3) Imitation.** Imitation is an important skill for communication development for children who are hearing as well as those children with a hearing loss. Children learn imitation by a process of observing adults first imitating what a child does; then, the adult gradually modifies the activity so that the child is imitating the adult's behavior.

**(4) Turn-taking.** Turn-taking does not arise naturally as a by-product in the development of a child who is deaf. There is a process of acquiring turn taking. This process includes specific behaviors observed of mothers who are deaf using child-directed signing (Spencer, Erting, & Marschark, 2000). The teaching of turn-taking is introduced to a child by an adult entering into play with the child. For example, if a child is putting blocks in a pail, the adult waits for the child to put a block in the pail; then the adult, in turn, places a block in the pail. The adult may introduce language of, "My turn" and "Your turn" or "Bobby's turn." Children express their understanding of turn-taking when they provide visual cues that they expect the adult to do something next. For example: The child puts a block in the pail and then looks at the adult; or, in a blowing and popping bubbles activity, the child runs-back to the adult and waits for bubbles to be blown again.

**(5) Visual Listening.** Activities around the skill of listening vary depending on the communication system the child is learning. For children who are learning visually, listening becomes attending to signs, communication postures, and facial expressions in an effort to distinguish one from another, to see strings of signs, and to attend to signs in an effort to make sense of them.

**(6) Viewing.** Viewing involves active development of receptive skills in ASL. Children engage in viewing activities to develop skills in understanding, learning, and examining various genres through interactions, live presentations, videos, contests, and other sources. During viewing, children expand their ASL vocabulary by focusing on sign choice, appropriate use, sign inflection, and classifier selection (Center for ASL/English Bilingual Education and Research, 2004). Examples include but are not limited to having the child view an ASL video on a daily basis (15-20 minutes), the parent sitting with the child to view the ASL video and imitate/act out/talk about segments, and child and parent recreating a signing story/poem.

Given appropriate language support, children who communicate using ASL can meet signing milestones at comparable ages as children who hear. Readers who are interested in learning more about signing milestones are referred to:

Andrews, J., Leigh, I., & Weiner, M. (2004). *Deaf people: Evolving perspectives from psychology, education, and sociology*. Boston: Allyn & Bacon.

Easterbrooks, S.R., & Baker, S. (2002). *Language learning in children who are deaf and hard of hearing: Multiple pathways*. Boston: Allyn & Bacon.

### Development of Auditory/Oral Communication

An auditory approach, with consistent use of hearing technology (i.e. hearing aids, cochlear implants, and/or FM system), is used to develop auditory memory and develop spoken language in the deaf or hard of hearing child (Stone, 1997). Children exposed to auditory communication must learn to sustain auditory attention and develop auditory memory if they are to become successful in associating meaning with the spoken language. Even if a family chooses to use simultaneous sign and spoken language, D/HH children must become keenly attentive to the spoken language to be successful in developing listening skills and spoken language. They must learn to focus their attention on the language being spoken and the object being discussed to develop meaning of the sounds in spoken language (Hayes, Geers, & Moog, 2009).

Not all D/HH children will be successful with auditory/oral communication (Stone, 1997). But those children that are given early (Svirsky, 2000; Robinson, 2004), consistent, and focused attention to their hearing capabilities and auditory stimuli will likely have a good chance to develop listening and speaking skills on par with their hearing peers given the recent advancements in hearing technologies and auditory/oral teaching approaches.

Elements key to the success of developing auditory/oral communication in an early developing child include the following:

**(1) Early Intervention.** The earlier the D/HH child receives attention to their hearing needs, the potentially more successful they will be in developing listening and spoken language skills (Svirsky,

2000; Robinson, 2004). Properly fitted and mapped hearing aids and cochlear implants are essential in successfully developing auditory/oral communication. The success of auditory/oral communication is dependent on the child acquiring good hearing through hearing technologies at an early age (NCHAM, 2009; OSERS, 2006).

**(2) Consistent Attention.** To begin the process of learning to attend to spoken language, parents of D/HH children are to be active in providing the child with the sights, sounds, and stimuli that bring meaning to sounds and spoken language. The child is to wear their hearing aids or cochlear implants at all times during waking hours. Like hearing parents with hearing children, the parents of the D/HH child are to sing, read children stories, nursery rhymes, play, and provide meaningful activities to stimulate the mind and develop auditory memory (Teaching Expertise, 2009). Music is very useful to develop the meaningful rhythms of sounds beneficial in the growth of auditory memory (Shahin, Robers & Trainor, 2004; Tallal & Gaab, 2006; Fix, 2008). Consistent auditory stimulation is fundamental to the success of developing auditory/oral communication in an early developing child.

**(3) Playful Activities.** Spending time in playful activities develops a child's attachment and self esteem as well developing communication skills. Attending skills should focus on activities that stimulate the growth and development of auditory memory. Laughing, giggling, singing, and playful silly noises and gestures offer good auditory stimuli to the early developing mind. To spark a child's response in kind, tickling or playful wrestling to encourage a laugh or giggle provides a connection of association based in sound. This can be very useful in developing the parts of the brain that makes connections with sounds and produce sounds. Other very useful sound based means to develop auditory memory is playing music and watching movies and musicals that a child likes. The repetitive watching and listening of a child's favorite movie or musical will, in time, develop a child's recall of auditory memory (Shahin, Robers & Trainor, 2004; Tallal & Gaab, 2006; Fix, 2008).

**(4) Imitation.** As with visual communication development, imitation is an important skill. For children who are learning to listen and speak, imitation of language begins by imitating the child's sounds, sound play, and turn-taking in sound production.

**(5) Visual/Auditory Listening.** Activities around the skill of listening are essential in developing the auditory memory necessary for auditory/oral communication. For children who are learning to use audition, listening skill development can be made with visual association. When a loud plane flies overheads, pointing out the source of the sound can develop that association and help the child learn to distinguish one sound from another. When a telephone rings, an observation is made that the source of the sound is the telephone. When a bird sings, pointing out the bird will develop that association for the child. These activities help the child develop the skill to associate sound with meaning. This skill to associate sound with meaning will later become the foundation upon which the child develops complex listening and spoken language skills (Burkholder & Pisoni, 2003-2004; Bergeson & Pisoni, 2004).

**(6) Reading.** Reading involves active development of receptive, and later on expressive, skills in spoken language. Engaging the child in reading, with first the parent reading to the child and, later on, the child reading to the parent, develop skills in understanding and learning the spoken language. During reading, children expand their spoken language vocabulary leading to greater levels of comprehension and expression in the auditory/oral mode of communication. Examples include, but are not limited to, having the parent read along with the child on a daily basis (15-20 minutes), the parent

sitting with the child during reading times to add meaning, act out, or talk about the story, and the child and parent recreating the story or pieces of the story in expressive re-enactments (Vermeulen, Schreuder, Knoors & Snik, 2007).

### Child-Directed Language

Infants are born to pay attention to certain types of child-directed language. Child-directed sign language, like infant directed talk, attracts and holds babies' attention more than adult-directed sign (Masataka, 1996). Volterra and Erting (2002) identified specific behaviors in mothers who are deaf using child-directed signing, such as a slower rate of sign; using the child's direct line of vision to sign or placing an object in front of a child when signing the name; repeating signs and exaggerating facial expressions; and using touch and vision like signing on the child's body or tapping the child to get attention.

### Cognitive Development

Research increasingly shows that the nature of cognitive development is essentially identical for deaf as well as hearing children; that differences in academic achievement and intellectual testing reflect deficiencies in linguistic development and not inherent capabilities. Differences in cognitive abilities have been identified. Numerous studies concerning short-term memory (or working memory) have shown that deaf and hearing individuals may encode information in qualitatively different ways. The deaf have been said to rely more heavily on visual-spatial short-term memory codes (Clark, Marschark, & Karchmer, 2002, p. 75).

While hearing children's cognitive abilities are shaped by their auditory experiences, the cognitive abilities of children who are D/HH are shaped by their visual experiences (Bellugi, O'Grady, Lillo-Martin, O'Grady Hynes, van Hoek, & Corina, 1994). The ability to discern visual patterns may allow Deaf children to develop analytic links between the orthography of written texts and the cherology of signed language as a strategy for decoding print. This is supported by the McQuarrie (2005) study of 52 deaf readers (Enns, 2006).

### Language and Vocabulary Development

Hearing level is associated with a delay in children's vocabulary development. This impact results in smaller lexicons, slower rates at which new words are acquired, and a narrower range of contexts that result in word learning. Research suggests that, although delayed, children who are deaf and hard of hearing eventually acquire strategies that should lead to acceleration in word learning (Clark, Marschark, & Karchmer, 2002). Research also indicates that for children who are deaf or hard of hearing exposure to any language is not enough; they need specific and explicit vocabulary instruction (Livingston, 1997; Enns, 2006).

Most children who can fully hear enter school with the ability to process and integrate verbal information. They have an extensive vocabulary and a basic command of language. Schools develop curricula, programs, and services based on the assumption that most children entering school *will* have basic language skills. The school system proceeds to teach students the skills of reading, writing, and computation so that they have the tools to acquire information in a wide variety of content areas. Although the goals for educating hearing children are identical to those for children who are D/HH, there are unique cultural and linguistic needs for children who are D/HH. The major barriers to learning associated with deafness are related to language and communication, which profoundly impacts most aspects of the educational process. Children with hearing loss seldom bring to their educational experience the same extensive language background or skills as children

who can fully hear. Early childhood professionals and families should work to change this pattern. For children whose hearing losses are diagnosed early, with appropriate early intervention, family involvement, and early childhood services, many can enter kindergarten with near age-appropriate communication systems and be ready to learn.

### **Providers of Language Models**

In order to acquire language, children require language models. During the life of a child who is D/HH, there are many people who can provide this experience. Providing language models is developing imitation models for language. Adults model what they want the child to say/sign [orally or through sign (Albrecht & Miller, 2001)].

**(1) Parents.** Families and children who are learning ASL, or Manually Coded English, will need support from service providers during these endeavors. Parents who have well developed sign language before having a child who is deaf, will be at an advantage in helping their child develop sign language. Parents of children who communicate orally may also need support from service providers in how to become effective facilitators of their child's listening and spoken language development. Service providers should collaborate with parents and professionals to develop goals, objectives, and strategies for achieving the natural developmental of all aspects of visual or auditory communication.

**(2) Interpreters at the Early Childhood Level.** Children during the early childhood years need direct access and support for language and communication development. Teams should consider whether or not the use of an interpreter is appropriate for the child. Schools may consider using their available interpreters to support the language development of young children beyond interpreting, using strategies to effectively support young children's communication development. They may provide these services directly to the child and, with other service providers, may support the parents' becoming language facilitators as well. For more information on educational interpreters refer to the Guidelines for interpreters in the educational setting for students who are deaf or hard of hearing (KSDE, 2003).

**(3) Facilitators of Language.** Some school districts and infant/toddler providers have employees who are trained to support language development of a young child and to work with the child and family. These employees facilitate the development of language for the child who is D/HH (and the parent) in a natural way.



## Chapter Four

### COMMUNICATION AND LANGUAGE PLANNING

Development of functional communication should be a major part of the discussions in planning for a child's learning and education. Language development depends on frequent, consistent, and accessible communication, regardless of whether it is through signed or spoken language (Marschark, 2001). Conversations about communication and language development should occur early among service providers and parents, and concrete plans should be made for how the development of functional communication will be supported and monitored.

Each Individualized Education Program (IEP) team is required to,  
...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 (USCS §1414(d)(3)(B)(iv)).

*Meeting The Needs of Students Who are Deaf or Hard of Hearing: Educational Services Guidelines* (NASDSE, 2006) states,

...that early intervention programs should provide parents with sufficient information about the range of options regarding communication development so that parents can make qualified decisions in the best interests of their child. Choices about communication are frequently made as a part of a process, rather than as a one-time phenomenon. (p. 6)

Additionally,

...the determination of how a family and child will communicate when there is a hearing loss present is a central decision. A combination of auditory, communication, speech and language assessment will be crucial to providing information to guide decision making in this area (NASDE, 2006, p.44).

Professionals and parents should stay focused on ensuring that each child has a functional and competent language that supports academic learning. Both the parents and the professionals maintain an expectation that children who are D/HH will be successful academically and socially. Decisions about communication modes should be free of biases and responsive to children's progress, or lack of progress. Many factors can influence the decision about the appropriate language or communication modes and the instructional methodologies used.

#### Language Choices

**(1) American Sign Language (ASL).** American Sign Language is a recognized, complex language with its own rules for phonology, syntax, morphology, semantics, signacy, oracy, and pragmatics. Being a visual language, hand gestures along with facial expressions and other movements are used to represent entire words or phrases and concepts. ASL is a language that uses the same concepts as English or any other spoken language. By making the language visual, the child is then able to fully comprehend the message. This is the commonly accepted language of the Deaf community.

(2) **English/Other Native Language.** A spoken, written, and read language. It relies on the auditory channel for expression and comprehension. English is the most common spoken language in Kansas, but other native languages could be the primary language of children who are D/HH.

### Communication Modes

- (1) **American Sign Language.** Described in previous section.
- (2) **Spoken/Oral Language.** Spoken language is used with a child's residual hearing through the use of appropriate hearing technologies. Visual communication may be used to supplement speech information, but in this approach children learn to listen and speak without the use of sign language (NASDSE, 2006).
- (3) **Manually Coded English (MCE).** There are a variety of visual systems that use signs, fingerspelling or gestures to represent English. Some of the signs are borrowed from ASL and some are invented. The systems, though, all follow English word order. The most common Manual Codes of English are:
  - **Signing Exact English (SEE II).** Signing Exact English II represents spoken English and matches a sign with each individual word including all grammatical components of English (72 signed prefixes and suffixes). It follows English sentence structure including the same sign for the same word regardless of the conceptual meaning. Many of the signs are taken from ASL, although some are modified. In addition, signs can be invented by following guidelines based on ASL principles (see Appendix C for the SEE Center website).
  - **Signed English** An English sign system devised as a partial representation of English for children between the ages of one and three years. Traditional signs and some conceptual ASL signs are used in English word order with the addition of 14 signed suffixes known as markers.
  - **Conceptually Accurate Signed English (CASE).** Conceptually Accurate Signed English uses the structure and word order of English with vocabulary from American Sign Language. The difference between CASE and other MCE systems is that CASE uses concepts in the same manner as ASL in order to convey the meaning of the speaker. It is probably the most common form of MCE in schools today.

### Instructional Methodologies

Language teaching approaches can be classified into three main categories: (1) bilingual, (2) total communication, and (3) auditory/oral. These categories are described below.

**1. Bilingual Education Approach.** The primary goal of an ASL/English bilingual program is to develop language and academic proficiency in both ASL and English for children who are D/HH in order for cognitive and academic advantages to accrue. This means a bilingual program is a full maintenance model that supports and facilitates the complete development of both languages over an extended period of time in order to reap cognitive and academic advantages.

The bilingual education approach uses ASL, the language of the adult Deaf community, as the language of instruction, and teaches English as a second language (Andrews, Leigh, & Weiner, 2004). The instructional approach is similar to those used in other bilingual programs using English as a second language. It is important to be aware that the bilingual approach which uses ASL as the first language and English as the second language contains three salient factors that assist a child who is deaf or hard of hearing in developing competency in the English language or other spoken language (Nover, Christensen, & Cheng, 1998):

- **Literacy** refers to fluency in a written language (the ability to read and write).
- **Oracy** refers to the ability to express oneself in (fluency) and understand spoken language (i.e. the ability to speak, listen and/or lip read).
- **Signacy** refers to fluency in a signed language including both receptive skills (comprehension of a visual signed message) and expressive skills (production of visual signed message). The term signacy is derived from the concepts of oracy and literacy.

Language	ASL	English	English
Mode	Signacy	Literacy	Oracy
Receptive Skills	<ul style="list-style-type: none"> <li>• Attending</li> <li>• Viewing</li> </ul>	<ul style="list-style-type: none"> <li>• Reading</li> </ul>	<ul style="list-style-type: none"> <li>• Listening</li> <li>• Lip-reading</li> </ul>
Productive Skills	<ul style="list-style-type: none"> <li>• Signing</li> </ul>	<ul style="list-style-type: none"> <li>• Writing</li> </ul>	<ul style="list-style-type: none"> <li>• Speaking</li> </ul>

(Adapted with permission from: Nover, Christensen, & Cheng, 1998)

**2. Total Communication Approach.** Simultaneous Communication (Sim-Com) or Sign-Supported Speech (SSS) uses all modes of communication (i.e., speech, sign language, audition, speechreading and fingerspelling). The sign language systems used in this approach are visual representations of the English language. The expectation is that children who are D/HH will understand the English language in the same manner as hearing children, and thus be able to read and write English effectively. Deaf culture can be taught using this approach.

**3. Auditory/Oral Approach.** Spoken Language (oral) approach focuses on one language—English, or the native spoken language of the student. The expectation is that children who are D/HH will develop spoken language in the same way hearing children develop spoken language. The spoken language, or oral, approach seems to be more successful with children who have late onset hearing losses, have mild to moderate hearing losses after amplification or have cochlear implants (CIs). When using an oral approach, the child who is D/HH can look at the speaker's face, read lips, and watch natural gestures (like pointing), in addition to their residual hearing, to get the information. With hearing aids and CIs, a stronger auditory component may be added to this approach.

## Communication Plans

To better address the language and communication needs of children who are D/HH, a communication plan may be utilized to assist service providers in making decisions regarding services and placement. Kansas State Department of Education (2009) developed a model *Communication Plan for children ages three-21* that may be used by school districts to assist IEP teams in developing an appropriate IEP for a child who is D/HH (see Appendix B). The Communication Plan is a tool that will guide the IEP team and the family to ensure that the child receives special education and related services, supplemental aids and services, and accommodations in a setting that provides a language rich environment where he/she can be successful. The IEP team may choose to include the Communication Plan with the IEP paperwork and should review and, if necessary, revise it annually as the child's IEP is reviewed and revised. Throughout these guidelines each area of the Communication Plan is addressed and additional information is provided for the development of the Communication Plan.

The areas for consideration in the *Communication Plan* include the child's:

- (1) primary language,
- (2) primary mode of communication, both receptive and expressive,
- (3) language needs,
- (4) opportunities for direct communications with peers and educators who interact with the child,
- (5) opportunities for direct instruction in the child's language and communication mode,
- (6) academic level,
- (7) full range of service and support needs,
- (8) behavioral needs caused by communication frustration or other antecedents, and
- (9) accommodation and modification needs.

## Chapter Five

### LITERACY

#### Language and Literacy Connections

Literacy is often thought of as being only a decoding and graphic, perceptual-motor activity. But, it is more than that. Reading enables even very young children to think, develop ideas, communicate, and reflect about written language. All of this happens slowly, predictably, and naturally if the right conditions are set-up and if adults are able to explain to children what print means, in either sign or spoken language. From perception and cognition to communication and on to language and literacy, such is the path. This path is bidirectional. In turn, literacy learning enhances a person's language, communication, perception, and cognition (Andrews, Leigh, & Weiner, 2004).

**(1) Literacy Development for Children Who Are Deaf or Hard of Hearing.** For many children who are D/HH, literacy development can be challenging. Any discussion of literacy instruction for children who are D/HH begins with establishing high expectations for these children. Professionals and parents should communicate the message that literacy is valued and expected.

Services provided to children with disabilities should be based on peer-reviewed research whenever possible. In the area of literacy instruction for children who are D/HH, there is limited scientific research available. However, current research provides some direction for practitioners and educators are encouraged to stay informed of emerging knowledge in the area of literacy development for children who are D/HH.

English language proficiency and reading comprehension have been found to correlate at approximately .70 in adults who are deaf. These results indicate that reading comprehension and English proficiency are distinct but related skills. Additional research indicates that children who are deaf do not possess English language abilities comparable to those of younger hearing children with equivalent reading achievement (Strong, 1988). Because literacy skills build on prerequisite language skills, the expectation must be that children, at a very early age, have language systems that support academic learning.

**(2) Learning Language.** Some basic progress stages and sequences of language acquisition in children with normal hearing are applicable to language development in children who are deaf. For children who are hearing, conversational fluency in a primary language precedes the transference of this knowledge to reading.

#### Literacy Environments and Support

To support reading and writing development, children must have the language base. Language development should be the primary literacy goal during the preschool years. Other environmental considerations and adult supports can support further literacy development as well.

It has been noted that readers who are deaf and use sign, appear to map sentences onto a visual code based on sign language (Goldin-Meadow & Mayberry, 2001). Because "language is learned through communication for the purpose of communication" (McAnally et al., 1999), it is important that children who are

deaf have extensive exposure to language as it is used in communications so they will understand the influence language has over environment and people within that environment. Successful language acquisition is determined to a certain degree by the quality of input received. Teachers of children who are D/HH and speech-language pathologists are advised to use information about normal language development as guidelines and to plan learning activities that will encourage experience with the language components of form, content, and use. The following points have been identified as being important for developing language in children who are D/HH:

- The need to communicate precedes the ability to communicate.
- Interaction is essential to language development.
- Structural elements of language appear to be more important initially than do words.
- The form of adult input influences early language development.
- Feedback to children on how well they have represented their intended meanings is important to language development.
- The vocabularies and syntax of children who are deaf grow slowly and follow patterns (McAnally, et al., 1999).

### Supporting Early Literacy Development

It is important to understand that the most essential skills to be developed for supporting literacy in a child who is D/HH, are the language and communication skills. The following are of value as well:

- **Build vocabulary** by ensuring that the support for vocabulary development is constantly available for the child who is D/HH.
- **Writing** by ensuring children see writing examples and be provided opportunities to write. These opportunities develop the understanding of how important writing is in our lives.
- **Play materials** should include books, maps, and phonebooks, etc. Adults in play environments are encouraged to facilitate the use of these materials during play.
- **Read/storysign** to children using sign language, read/storysign to the whole group, to small groups and to individual children. Model reading/storysigning to a doll and other children. It is also important to remember that children need multiple exposures to the same books.
- **Phonological awareness** for children who are receiving intensive auditory training, phonological awareness activities are built into that work. Children should be introduced to fingerspelling at an early age so that it is available to support letter-sign understanding later.
- **Cherological awareness** for children who are D/HH acquiring and learning to sign have an opportunity to play with their language using handshapes, locations, movements, and palm orientations by creating handshape stories, number stories, ASL poetry, and jokes. Stokoe (1965) developed the term, *cheir*. Cheir is a Greek derivative for "hands." Cherology is the study of the smallest contrastive units of signed languages (Battison, 1978; Crystal, 1997; Stokoe, Casterline, & Croneberg, 1965; Stokoe, 1978). Cheremes is the smallest contrastive units that combine to form all signs, in the same way that phonemes combine to form words in spoken languages (Battison, 1978; Crystal, 1997; Stokoe, Casterline, & Croneberg, 1965; Stokoe, 1978).
- **Environmental print** is seen throughout different settings in which the child participates, such as print on commercial signs, road signs, labels and products. This print helps children internalize the importance of written language and print in announcing events, meeting needs, and communicating with others. By displaying environmental print and actual materials in the learning

environment, children are helped to feel successful reading at an early age. These early successes motivate the very young child to read even more. Fingerspelling can be used to help children attend to environmental print.

### Reading to Children who are Deaf or Hard of Hearing and Support for Parents

The Laurent Clerc National Deaf Education Center, Gallaudet University, provides information for parents, caregivers, and teachers about reading with their young children who are deaf. This is one of nine initiatives of literacy used at the Laurent Clerc National Deaf Education Center aiming to improve literacy among D/HH children. Schleper (1997) developed fifteen principles for adults to use when reading to D/HH children. Research shows that the application of these principles results in improved academic achievement, reading, writing, and social development. The Shared Reading Project (SRP) identifies 15 principles related to reading to children who are D/HH (see Appendix C for website). In addition to the SRP principles, there are quality practices which support literacy development in a school environment that are applicable to early childhood and the primary grades. A primary challenge for literacy instruction and support during early childhood is to ensure it is developmentally appropriate.

- Adults serve as a model for children who are learning sign language by modeling how to connect events within a story, how to talk about and react to what is read, how to construct meaning by using all the information available, and how to translate print into signed storytelling.
- Reading to children using a visual/sign communication system is characterized by signing directly on the book, frequently referencing words/pictures to signs by pointing-signing-pointing, using fingerspelling to draw attention to the words printed, liberally using animated signing, using strategies to maintain child attention, including pointing to objects in the book, following the child's lead, animated facial expressions and signing, tapping on shoulder or lap; changing facial tone, signing space, and body posture to support story characters; using non-verbal questioning techniques like raised or lowered eyebrows; ensuring that children relate personal experiences to the story, change words that show sound-related concepts to signs that show visual concepts, such as changing "hear birds singing" to "see birds in the tree"; using classifiers to fit actions in the story, such as "What's his *job*? He is a policeman. Policeman is his job." or "It's a dog. It's a Dalmatian, a white dog with black spots."

**(1) Alphabetic Knowledge.** Alphabet knowledge, which includes letter-shape recognition, letter name, letter sound, letter writing ability, and letter fluency, is not a guarantee for future reading success. However, a child's lack of knowledge of the alphabet before beginning to read can be a good predictor for a child's later struggles in learning to read successfully.

**(2) Fingerspelling.** The acquisition of fingerspelling has been described as having three stages in the development of children's word production skills in fingerspelling. First, children produce sign-like attempts to fingerspell whole words. At this stage, it is the movement envelope that is salient, and, while the productions preserve some visual and temporal aspects of fingerspelling, sequences of individual fingerspelled letters cannot be discerned. In the second stage of acquisition, children discover that fingerspelled words consist of individual hand configurations in a specific sequence. Productions are no longer sign-like; instead each letter of the fingerspelled word is articulated separately. The final stage of acquisition is termed fingerspelling synthesis, when the fingerspelled

word is no longer produced as a sequence of separate elements but is reconstructed and appears as a whole entity (Spencer, Erting, & Marschark, 2000).

**(3) Relating Fingerspelling to English.** One step in the process by which young children who are deaf come to understand the connection between fingerspelling and English is learning about the relationships between fingerspelling and ASL. Parents can help their children link symbols meaningful to them in one representational system, ASL, with those symbols as they are organized and used in a different representational system, fingerspelling. Children acquiring ASL, fingerspelling, and English literacy need to understand the relationship between the hand configurations of signs, fingerspelled letters, and English letters and words in print.

Fingerspelling occurs in signed discourse when children were only weeks old, but it does not play a prominent role in early communication. An increase in the prevalence and functional diversification of fingerspelling occurs as children move into toddlerhood and demonstrate their developing interactional and linguistic competencies.

Books are a part of parent-child interaction from infancy. In the third year, books become increasingly prominent as contexts for interactions involving fingerspelling with explicit attention to letters and words in print. Using a variety of strategies including letter calling, chaining structures and play practice with name signs and their fingerspelled translations, parents who are deaf mediate English print for their children (Spencer, Erting, & Marschark, 2000).

Research indicates that young children become aware of print concepts, using fingerspelling and signing strategies (Andrew & Mason, 1986). Fingerspelling plays a variety of roles in the reading process for children who are D/HH since it serves as a basis for the development of rudimentary phonological coding. Padden (1996) argued that one step in the process by which young children who are deaf come to understand the connection between fingerspelling and English, is learning about the relationship between fingerspelling and ASL.

Fingerspelling is important for communication and it connects directly to reading and writing (Schleper, 2003). Preliminary research suggests:

- Children should be encouraged to play with fingerspelling. An example is creating a handshape story (signed story using ASL showing alphabetical representation, such as letter "A" handshape becomes KNOCK-DOOR, letter "B" handshape becomes DOOR, letter "C" handshape becomes TURNING-DOORKNOB, and so on until the story reaches letter "Z" (Bailes, 2001).
- For literacy development, fingerspelling is more beneficial to children than inventing signs. Inventing signs does not help the child develop skills that connect to writing. Fingerspelling is not too difficult for young children.
- Fingerspell words that are important to the child, even if the words are long, is a real motivator for children to learn to fingerspell.
- Fingerspelling should be used with very young children, before children can read and write and before they know letters. Children introduced early to fingerspelling are reported to use it by age two. Young children use fingerspelling of a word/name as a single unit, as a sign for something. Later, children connect fingerspelling to letters and letters to print. At about the

- same time that a child that is deaf realizes that there are links between ASL and fingerspelling, they also realize there are rules to the selection of letters and their order in fingerspelled words, and specifically that fingerspelling is linked to English vocabulary (Grosjean, 1996).
- When writing, children may focus on the hand shape to figure out how to spell a word in print. Many children watch their hand while fingerspelling and write what they see. Fingerspelling also teaches the child the important concept that the first hand shape is the first letter.
  - Overgeneralizations are common in fingerspelling, just as they are in oral communication for a child first learning the language.
  - Hearing children learning to spell often omit letters. Children who are deaf often substitute letters.

### Components of Effective Reading Programs

The National Reading Panel (2000) identified five areas that should be a part of reading instruction for all readers. Four of these areas are discussed here. These guidelines will attempt to bring together the current thinking in these areas of reading instruction as they relate to children who are deaf. It is important to realize that effective reading instruction for children who have mild to moderate hearing losses is comparable to reading instruction for children who hear.

**(1) Phonemic and Cheromic Awareness.** Modifications to phonemic awareness instruction are needed for children who are D/HH. For children who are deaf, phonemic awareness is a different concept and “may be represented by manual cues, speech, or approximated speech, speech-reading, or a combination of these forms in addition to what a student may hear (Marschark, 2001).” For young children and students with hearing loss, phonemic awareness is expanded to *phonological awareness instruction*, and cherological awareness which is defined as the awareness of, and ability to, manipulate the phonological segments in words at the phoneme, syllable, and rime level (Schwanenflugel et al., 2004). Phonological awareness abilities, such as rhyming, segmenting syllables, and blending syllables and phonemes, are predictive of later reading and decoding skills for hearing children.

Current work in this area has highlighted the need to think in broader terms about phonological skills which include visual as well as spoken language skills. The development of speechreading, articulation skills and use of residual hearing will provide support to overall phonological awareness. It is important to appreciate that the visual experience of a language can help a child tackling unfamiliar text (Knight, & Swanwick, 1999).

**(2) Fluency.** Fluency is the ability to read text accurately, quickly, with expression and ease. Where reading speed is reduced, the memory becomes overburdened and less effective as the reader tries to locate an unfamiliar word in their vocabulary store (Knight, & Swanwick, 1999). Daily fluency instruction should be a part of a child’s instruction once an instructional and/or independent reading level has been established.

**(3) Comprehension Vocabulary.** For fluent reading to occur, it is critically important that children who are deaf have access to a large vocabulary which is meaningful and comprehensible to them. The practice of studying words and their definitions out of context results in little improvement in a child’s long term vocabulary development. This practice should be supplemented with instructional practices

that support vocabulary development that is accessible to the child. Ensuring vocabulary development requires multiple exposures to the word and its use. For very young children, or children with limited language, the child may need 30-50 exposures to the word and its use to make it useful to the child.

When using a bilingual approach, the teacher helps the child draw upon the phonemic, morphemic, and semantic aspect of expressive language. The child can bridge the two languages (i.e. ASL and English) by establishing a common concept. Sandwiching is a technique to provide children who are D/HH exposure and instruction in the area of vocabulary and to emphasize a concept. Like a sandwich, a word is fingerspelled, signed, and then fingerspelled again. Alternatively, the word is signed, finger spelled, and then signed again. Sandwiching for oral children would be: say the word, point at the printed word, say the word.

Chaining is another technique in vocabulary instruction and concept emphasis. Like a chain, a word is fingerspelled, signed, and written or a picture of the word is shown before the word is fingerspelled, and then signed. Chaining for oral children would be: say the word, point at the printed word, and then point to a picture. Through chaining, children who are D/HH develop their understanding of the rules and structures of each language (Bailes, 2001).

**(4) Text Comprehension.** The importance of story-signing/storytelling/summarizing a story in sign before reading is illustrated in research reported by Singleton, Supalla, Litchfield, and Schley (1998). Children who were provided a signed summary of the story prior to independently reading the story increased retelling scores significantly over children who only read the story independently and did not have the benefit of the pre-reading instruction.

Children with well developed communication skills and academic ASL skills demonstrate reading comprehension and translation abilities. Translation involves literal and free translation. This ability shows how much children who are D/HH understand the text beyond the decoding level. These children are also able to discuss, analyze and evaluate texts (Padden, & Ramsey, 1998).

Because children who are deaf have limited access to the complete spoken form of English, they have difficulties in predicting meaning in text. Children who are deaf also experience difficulties understanding the meaning of essential words which lead the reader's way through the text. Functional words hold the text together because they link ideas together. Another area of difficulty is following meaning across larger sections of text. Children who are deaf tend to focus on smaller units of meaning, such as individual words, because they cannot follow connections between sentences (Knight, & Swanwick, 1999).

The beginning reader who is deaf may come to the reading task with a limited knowledge of the world as a result of their limited early language experiences. They may have fewer signs and words for the things in their world than a hearing child. If these readers are getting stuck because of lack of relevant vocabulary this reduces the speed at which they can process the text. When processing speed is reduced, text comprehension is negatively affected (Knight, & Swanwick, 1999).

## Writing

Research has shown that the written language of children who are D/HH can reflect the similar levels of achievement as their reading abilities. These abilities are similar in that they involve similar processes and are both affected by a primary language form to which most children who are D/HH do not have access in their formative years. Children who are D/HH and their teachers are confronted with particular obstacles when it comes to communication through written language. In contrast to speech or signing, writing is void of facial expressions, intonations, delivery rate, or other emphasis. This form of communication is dependent upon the child's ability to translate personal thoughts into symbolic form, and it requires the use of English rules, not expressive features to convey the intentions of the child (Rose, McAnally, & Quigley, 2004).

It appears that a balance in teaching strategies using natural and structured approaches to written language development may provide the maximum advantage. "The data regarding the written language of deaf children have primarily illustrated the deficiencies in the product rather than identified the process used. Critics generally attribute these characteristics to the methods of teaching in the classroom (Rose, McAnally, & Quigley, 2004, p.179)." It is proposed that the application of a more pragmatic approach to instruction, focusing on written language as a process of connected discourse, has the potential for development of increased literacy in both reading and writing.

***Authentic Use of Written English.*** Children who are D/HH need ongoing opportunities for authentic written English use other than reading and writing instruction in the classroom to develop English vocabulary, text comprehension, and fluency skills. Authentic language use, also known as functional language, "moves into language production across an encyclopedia of everyday contexts and events (Baker, 2006, p. 5)." Examples of authentic written English use include, but are not limited to, shopping using a shopping list, ordering food or asking for assistance using pen-and-paper communication, face-to-face conversation using pen-and-paper, solving puzzles and following other commands using children's activity books, watching TV shows and movies using closed captioning. The length of exposure in the use of English language in authentic contexts, in addition to classroom instruction, increases the English proficiency of children who are D/HH (Baker, 2006).

## Metacognition and Metalinguistics

*Metacognition*, being able to think about thinking and learning, is important to a child's independence in learning. The development of metacognition is supported by *mediating learning experiences* (Andrews, Leigh, & Weiner, 2004). Mediating learning experiences refers to learning situations in which an adult helps a child bring meaning to a situation. The adult sets up the learning experience, draws attention to certain aspects of it by comparing objects and events, focuses the child's attention on important aspects, helps the child label and categorize the lessons (Andrews, Leigh & Weiner, 2004)

Effective readers monitor their own comprehension; they recognize when they do not comprehend, and they apply fix-up strategies to remedy the problem. Deaf readers often have difficulty in comprehending what they are reading for several reasons. They may not actively try to construct meaning as they read but may instead view the task of reading as being simply a task of word identification. They frequently are not effective at monitoring their own comprehension, and often they do not know fix-up or repair strategies and how to apply them (McAnally, Rose, & Quigley, 1987).

Theory of mind, which is being able to think about and interpret another person's thoughts, develops in hearing children around four years of age. Teachers can help children make their thinking explicit by talking about thinking. Teachers model *Think Aloud* and encourage children to think about their thinking. Although further research is needed, theory of mind supports communication, social interactions, the ability to benefit from instruction, understanding of stories, and understanding of scientific reasoning and critical thinking (Andrews, Leigh, & Weiner, 2004).

*Metalinguistics* is the ability to think about language. Children who use ASL and are learning written English must realize that both of these—ASL and English—are two distinct language systems. Children need to be able to think about and talk about the rules governing both languages. This requires teachers to make explicit comparisons between their rules and structures. Sandwiching fingerspelled words with signs is effective in helping bridge words and concepts in both languages (Bailes, 2001).

## Chapter Six

### EDUCATIONAL ENVIRONMENT

#### Communication and Language Needs

Whereas communication is having one's meaning understood and speech focuses on articulation and voice quality, language is the combination of semantics, syntax, and pragmatics. Language is the cornerstone of human social interaction, is impacted by experience and evolves over time. The dynamic relationship that language and communication contribute to the educational process of children who are deaf or hard of hearing was specifically addressed by federal guidance issued by the US Department of Education:

[T]he major barriers to learning associated with deafness relate to language and communication, which, in turn, profoundly affect most aspects of the educational process.

[The] communication nature of the disability is inherently isolating, with considerable effect on the interaction with peers and teachers that make up the educational process. This interaction, for the purpose of transmitting knowledge and developing the child's self-esteem and identity, is dependent upon direct communication. Yet, communication is the area most hampered between a deaf child and his or her hearing peers and teachers (E.D., 1992, 57 Fed. Reg. 49274).

With a low-incident rate, children who are D/HH often are put into situations where their communication is via a third party (i.e., an interpreter) or diluted (i.e., children without appropriate supports). However, without an environment rich in language, children who are D/HH are at high-risk of developing communication deficiencies. As with hearing children, children who are D/HH should have access to direct communication and instruction as well as incidental learning that happens in and out of the classroom to enable them to develop a strong sense of self as well as independent skills that will serve them as they exit the educational system.

The need to consider communication and language needs in designing appropriate educational programs for D/HH children was codified by the 1997 amendments to the IDEA:

[The IEP team shall] 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 communication 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. (USCS §1414(d)(3)(B)(iv)).

#### Level of Hearing

Decisions about the educational environment for a child who is D/HH should take into account the impact of the child's degree of hearing loss; however, decibels and articulation scores are contributing factors to the discussion, not the only data to be considered. The needs of children with identical audiograms or articulation skills might require significantly different environments to have appropriate access to learning, while the needs of a child with a mild hearing loss might require the same environment as a child with a profound hearing loss.

## Academic Needs

Direct access to a strong language base is important for academic and social success. Children that have a substantial foundation in direct communication in their most accessible mode have been found to graduate on par with their hearing peers. Siegel (2000) states:

A deaf or hard of hearing child is, to some degree, without hearing. And yet the term "disabled" may be a misnomer. That same child is fully capable of developing language – spoken or manual – and becoming a complete person. A communication difference is not the same as a communication disability.

A service that is often utilized for children who are D/HH is the provision of an interpreter. An interpreter may be utilized to facilitate communication, but does not serve as an educator or present instructional material on his/her own. In Kansas, in order for a district to receive state categorical aid funding at the 'professional' level it is required that interpreters maintain a level four or five certification, with level five being the highest level of certification. Interpreters may work in classrooms with a lower certification level and receive state categorical aid as a paraeducator.

Another component to consider when an interpreter is utilized as an accommodation is the pacing of the instruction and the lag time that may occur. Even when an interpreter is present, direct communication between children and personnel and same language peers is critical.

## Social, Emotional, Cultural Needs

Placing children who are deaf or hard of hearing in the same physical location as children who are hearing does not guarantee social interaction will occur. There are times when a child who is D/HH is the only one in his or her school and can experience well developed academic skills and social relationships with hearing peers. However, Antia and Kreimeyer (1996) found that children tended to converse with children with similar hearing status and communication methods. For children who are D/HH to experience appropriate social interactions, "critical mass" of children who are D/HH should be considered. Children who are D/HH fall into a low-incident category where finding this large of a population can be difficult. A strategy for achieving critical mass could be to establish a site-based or cluster program where a large grouping of children and language-proficient staff are available for regular and on-going interaction, where placement in such a program is supported in the Communication Plan and the IEP.

Providing an educational environment where direct communication with peers and professional personnel is available promotes self-identity. If "critical mass" is not available, schools may need to consider other methods and opportunities for academic, social, and cultural interactions to occur. These may include, but are not limited to, regional multi-district programs, educational opportunities during the school year or summer, camps for children who are D/HH, social events, collaborative field trips, bringing in appropriate deaf role models, and use of technology such as videophones for interaction with peers and adults who are deaf or hard of hearing.

## Educational Placement

Educational placement refers to the instructional environment for the provision of special education services (K.A.R. 91-40-1(f)). Federal and state laws require students with disabilities under IDEA to be educated in the *least restrictive environment* (LRE) (34 C.F.R. §300.114(2)(i), K.A.R. 91-40-21). Least restrictive environment means the educational placement in which students with disabilities are educated with their non-disabled peers to the maximum extent appropriate and is based upon the individual needs of the child. (K.A.R. 91-40-1(l)). The comments to the IDEA (2006) regulations state,

The process for determining the educational placement for children with low-incidence disabilities (including children who are deaf, hard of hearing, or deaf-blind) is the same process used for determining the educational placement for all children with disabilities. That is, each child's educational placement must be determined on an individual case-by-case basis depending on each child's unique educational needs and circumstances, rather than by the child's category of disability." (Comments and discussion to 2006 IDEA Part B regulations, 71 Fed. Reg. 46586 (2006)).

For children who are D/HH, as with any other student with a disability, a continuum of placement options must be available, including regular or special classes, special schools, home, hospital, or other institution settings (K.A.R. 91-40-21(b)). For enrolling a student in a state school, such as the Kansas School for the Deaf (see Appendix C for KSD web site), refer to Kansas Regulation 91-40-4 for applicable procedures. When determining the appropriate placement option for a student who is D/HH, teams should consider the following policy guidance issued by the U.S. Department of Education:

Meeting the unique communication and related needs of a child who is deaf is a fundamental part of providing a free appropriate public education (FAPE) to the child. 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 LRE for that individual child.

Placement decisions must be based on the child's IEP. Thus, the consideration of LRE as part of the placement decision must always be in the context of the LRE in which appropriate services can be provided. Any setting which does not meet the communication and related needs of a child who is D/HH, and therefore does not allow for the provision of FAPE, cannot be considered the LRE for that child. The provision of FAPE is paramount, and the individual placement determination about LRE is to be considered within the context of FAPE. (E.D., 1992, 57 Fed. Reg. 49274).

The US Department of Education's detailed guidance about the factors to be considered in determining the educational placement for a child who is D/HH directs school districts to consider the child's communication, linguistic, social, personal, and cultural needs (E.D., 1992). Listed below are additional considerations for determining the appropriate educational placement of children who are D/HH. These recommendations are not intended to serve as an exhaustive resource, but rather to provide additional support to teams determining educational placement for children who are D/HH.

*The National Association of the Deaf's Position Paper on Inclusion* (2002) states that an appropriate educational placement in the LRE for a child who is D/HH is one that:

- ensures full development of language for the child;
- enhances the child's cognitive, social, and emotional development;
- is based on the language abilities of the child;
- offers direct language and communication access to teachers and other professionals;
- has a sufficient number of age-appropriate and level-appropriate peers who share the child's language and communication preferences;
- takes into consideration the child's hearing level and abilities;
- is staffed by certified and qualified personnel trained to work with deaf and hard of hearing children;
- provides access to the general education curriculum with modifications in pedagogy to account for the child's unique language, learning, and communication needs;
- provides full access to all curricular and extra-curricular offerings customarily found in educational settings;
- has an adequate number of deaf and hard of hearing role models, including adults;
- provides full access to support services;
- has the support of informed parents; and
- is equipped with appropriate communication and learning technologies.

The document, *Meeting the Needs of Students Who Are Deaf or Hard of Hearing* (NASDSE, 2006, pp. 49-62) also provides the following recommendations when considering the educational placement of D/HH children:

- consider all the factors unique to the students who are D/HH to ensure that the placement of the student is appropriate;
- consider the student's and parent's preferences and choices in developing the IEP, in determining the instruction and services that are appropriate for a student, and in considering the setting in which the student's IEP should be implemented;
- ensure that language and communication are accessible to each student, classroom, and overall school environment, and support the student's family in providing language and communication access at home and in the community;
- understand how the student's hearing loss impacts his/her ability to function in a typical classroom setting and in the school environment as a whole;
- be knowledgeable about evaluating and managing a classroom placement that requires interpreting services;
- understand the importance of social and emotional development of students who are D/HH;
- ensure the availability of age-appropriate peers who share the student's language and communication preferences;
- ensure that the cultural needs of students who are D/HH are met;
- ensure that students who are D/HH receive appropriate opportunities for direct instruction and direct communication with support personnel;
- ensure that personnel can effectively communicate with students who are D/HH in the student's identical language and communication mode;
- ensure appropriate access to support services for students who are D/HH;
- ensure the availability of, and access to, extracurricular activities for students who are D/HH; and

- ensure the availability of appropriate assistive technology for students who are D/HH. (p. 49-62)

Ultimately, a child who is D/HH should be educated in an environment that meets the individual needs of the child, particularly an educational environment that offers “authentic, effective interaction with peers and professional personnel (NASDSE, p. 57).” Information on providing educational environments for students who are D/HH can be found in publications from a range of agencies including, but not limited to, the National Agenda for Achieving Educational Equality for Deaf and Hard of Hearing Students (2005), National Association of State Directors of Special Education (NASDSE, 2006), Conference of Educational Administrators of Schools and Programs for the Deaf (CEASD, 2007), Council for Exceptional Children (see Appendix C for website), National Association of the Deaf (NAD, 2002), American Society for Deaf Children (ASDC, 2007), and Hands and Voices (see Appendix C for website).



## Chapter Seven

### ADDITIONAL CONSIDERATIONS

There are many considerations in providing educational services for children who are D/HH. This chapter provides information on three additional areas: assistive technology, progress monitoring, and transition.

#### Assistive Technology

The Individualized Education Program (IEP) team must consider whether a child who is D/HH needs assistive technology devices and services. (34 C.F.R. §300.324(a)(2)(v)). Assistive technology devices are "...any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities." (K.A.R. 91-40-1(c)). A personal device that a child needs for everyday living (as opposed to a personal device that a child would need only for school), is the responsibility of the parent. However, in some circumstances, it may be that the district must provide the device and include it in the IEP as part of its responsibility to make a FAPE available to the child (OSEP, 1993). For example, devices such as hearing aids are not listed as AT on an IEP unless the IEP team has determined such device necessary for the provision of FAPE. If such device is not provided by the school systems but is used with an assistive listening device such as an FM system, the FM system could be listed as being used 'with personal hearing aids,' or merely as an FM system if the child's personal hearing aids are not used.

Previously, the only assistive technology (AT) considered for children who are D/HH were amplification devices. Now, there are many options available that support access to learning, greater independence, and improved access to communication. New application of current and futuristic technology is being considered for possible use by people who are D/HH. There have also been significant advancements in auditory technologies and amplification devices.

This discussion of assistive technology is divided into five sections: visual technologies, amplification devices, assistive listening devices, and emergency devices.

- (1) **Visual Technologies** provide visual access to communication and can be used for instruction as well. Technologies that offer the child who is D/HH access to communication or provide a means of visual instruction include:
  - **Video relay systems** allow a person who uses sign to communicate through an online interpreter to a person who uses spoken language, or a person who does not sign to communicate with a signer. This system would allow itinerant teachers who do not sign to communicate with a child or person who is D/HH from a distance. This system facilitates more contact (albeit offsite) between the teacher and child.
  - **Video Remote Interpreting** uses video cameras to provide sign language interpreting services. The people are in the same room and look at the computer screen for interpreting and hear the interpreter speak. The interpreter is not in the room with the child who is D/HH, but instead is at a call center located elsewhere. There are many possible uses such as in classrooms, at interview sites or work-study programs, and during IEP team meetings.
  - **Videoconferencing** allows two individuals who sign to communicate directly. Children can take classes from geographically distant places. Itinerant staff can provide support to a child from a distance. Videoconferencing may also be of value in rural areas to ensure children have

regular access to adult role models who use sign and to provide opportunities for peers to talk with each other and take classes together. Videoconferencing be used in teaching sign language, to children and adults. As videoconferencing becomes widely accepted, the communication needs of persons who are D/HH should be considered as well.

- **Videostreaming**, like Signing Avatars, though not widely available, is an emerging technology which uses three-dimensional characters to communicate in sign language and use facial expressions. Many companies have used animation technologies to develop signing avatars, or cartoon characters that allow the characters to communicate in sign language. Not only does this technology have the potential for teaching literacy to young deaf children, it can be used as well to teach sign language to parents, staff, and other children. Videostreaming also allows the use of video logs VLOG in which individuals can set up a visual blog. Video logs provide visual commentary or news on a particular subject; others function as more personal online diaries.
- **Videophone (VP)**, using the same technology as videoconferencing, takes advantage of d-link technology to allow people to make telephone calls through the internet and see each other. Itinerant staff can provide support to a child from a distance. Videophone may also be of value in rural areas for the mainstreamed child who is D/HH and needs specialized instructional techniques designed for deaf education.
- **Closed Captioning** is assistive technology designed to provide access to television for persons with hearing disabilities by displaying the audio portion of a television signal as text on the television screen. Currently, most television sets have a chip imbedded in the set to allow for the text to appear on the television set screen. This AT is also available on DVD, video tapes, and compact disks of commercially-made movies and programs.
- **Real Time Captioning (RTC)** is a method (which parallels the work of court reporters) where a specially trained captioner uses a steno machine, connected to a computer with software capable of translating stenographic shorthand into words in caption formats and standard spellings, writes the spoken word on the steno machine. The computer software instantly translates the steno-entries into readable English text on the computer at a near verbatim rate. It is commonly used for newscasts, lectures, presentations, meetings, and sporting events, but can be used for classroom instruction.
- **Communication Access Real-Time Translation (CART)** involves a trained stenographer encoding spoken English that is converted to English text and displayed on a computer screen or television monitor. CART is used in some classrooms, courtrooms, and professional conferences.
- **Computerized Assisted Notetaking (CAN)** is a system that provides an individual who is D/HH access to public meetings and spoken presentations. A hearing person types summarized information onto a laptop computer while the text is projected onto a wall or screen. This is similar to the above properties described for CART. .

## (2) Auditory Technologies

- **Hearing aids** are electronic device used to conduct and amplify sound to the ear. Sound is amplified at various frequencies. Analog, digital, and programmable digital hearing aids are available for consideration. Each public agency must ensure that hearing aids are functioning properly. 34 C. F. R. 300.113(a).

- **Cochlear implants (CI)** are surgically implanted devices. The CI is an electronic device surgically implanted to stimulate nerve endings in the inner ear (cochlea) in order to receive and process sound and speech. A CI has both implanted and external parts. Each school district is responsible for making sure the external components of the CI for a child receiving special education service is functioning properly. School districts are not responsible for the maintenance, programming or replacement of the device. 34 C. F. R. 300.113(b)

**(3) Assistive Listening Devices.** Assistive listening devices are used to overcome room factors that interfere with listening: noise, distance, and reverberation or echo. Listening devices do not replace hearing aids.

- **Personal amplification systems** use a microphone/transmitter, generally worn by the teacher, to send the speaker's voice through the air to a receiver worn by children. The system transmits sound directly to the child's hearing aid(s), CI, or earphones. These include FM systems, induction loop systems and infrared systems. These amplification systems can be carried and used by a child from class to class and can include direct audio input for use with computers and audiovisual equipment.
- **Sound-field systems** are sound-field classroom amplification systems which may use either FM or infrared signals to transmit the speaker's voice. This system amplifies the speaker's voice via a wireless microphone and sends it to wall or ceiling-mounted speakers. It allows a child to hear the speaker's voice amplified consistently and without a receiver regardless of the child's or speaker's position in the room. Portable units with tabletop speakers are also available for ease in moving between classrooms. An educational audiologist should assist with the selection and fitting/installation of an assistive listening device that meets the needs of each individual child.

**(4) Emergency Devices.** Although IDEA (2004) does not require emergency devices for children who are D/HH, such devices may be required under the Americans with Disabilities Act (2000) in the sections governing building and program accessibility. Fire alarms need to be visual to the children and staff who are D/HH. Intruder alerts and public announcements, such as weather warnings, need to be visual.

### Progress Monitoring

Federal and state legislation has placed a renewed emphasis on accountability and academic outcomes among all children, including children who are D/HH. Renewed attention to effective instructional practices where measurement of child growth informs instruction and the decision-making process is recommended. Progress monitoring is defined as an empirically-based process that can be used to "assess students' academic performance and evaluate the effectiveness of instruction (National Center on Student Progress Monitoring, 2009, 8)." Progress monitoring tools that have been used with students who are D/HH and reported useful in determining child growth include tools such as portfolios (Reed, 1997), rubrics (Schermer, Bailey, & Fitzgerald, 1999), mastery monitoring measures (White, 2002), criterion-referenced checklists (Luetke-Stahlman, 1987), and selected curriculum-based assessments (Gickling & Thompson, 1985, Burns, MacQuarrie, & Campbell, 1999; Rose, 2006).

Progress monitoring through data collection is paramount in determining a child's growth toward attaining goals included in the IEP. The IEP is a working document that can be modified when a change in direction is required. NCLB (2001) and IDEA (2004) both rely on ongoing monitoring and assessments to ensure that students are making progress. After the initial diagnosis of hearing loss, audiological evaluation should include monitoring a child's degree and type of hearing loss, benefit from amplification, degree of auditory functioning based on hearing loss (with and without amplification) and evaluation of other assistive listening devices (ALDs) (NASDSE, 2006, p. 45, 41).

For all children, including those with fluctuating hearing loss, multiple considerations need to be addressed on a regular basis. This may include the acoustics (noise level) in the room, ease of use of assistive listening devices, fatigue, stress, and health. It is important to be aware of these factors and to regularly monitor the educational environment as well as the child's level of functioning in each setting.

Decision-making regarding classroom language use should be determined based on where a child falls on a continuum for accessing information through vision and/or listening. Decisions regarding language and communication use and placement should be continually monitored to determine if these choices continue to meet the needs of the child (NASDSE, 2006, p.44).

Educators should base their approaches for educating students who are D/HH on assessment data. As a way of improving educational outcomes and decision-making, the practice of school-wide multi-tier system of supports provides high-quality instruction based on student needs while monitoring learning rate over time and level of performance as a foundation for making educational decisions (Batsche, Elliott, Graden et al., 2005). Progress monitoring or response to treatment can be used to show a student's achievement of long- and short-term objectives and serve as a measure of individual accountability (NASDSE, 2006).

Curriculum-based measurement (CBM) is a standardized process that measures and monitors a student's progress within the school's curriculum, specifically in the basic skill areas of reading, writing, spelling, and mathematics. The design and development of CBM maintained the goal of providing teachers and parents with an efficient and economical tool to: (a) continuously and frequently assess student performance using a standard measure, (b) provide information regarding the rate of academic progress, and (c) provide teachers with data regarding the effectiveness of instruction (Deno, 1985; Rose, 2006).

## Transition

All students face transitions between and to school-based settings as well as school to post-school settings. Quality transition planning serves as a guide to educational programming and focuses on the student's interests, preferences, needs, and strengths and utilizes collaboration among special educators, general educators, community service agencies, parents and students. This process also requires coordination across service delivery systems to improve the quality and extent of available transition services.

**(1) Transition from Infant-Toddler Services to School Age Services.** Early intervention services for children ages birth through two are provided through the Infant-Toddler program, administered by KDHE. Eligible children are provided services through an IFSP, and networks of providers throughout the State. Children who meet IDEA Part B eligibility requirements at age three transition to early childhood special education services for children ages three to five years provided through local districts and administered by KSDE. These early childhood special education services are provided services through the means of an IEP (or IFSP for a preschool-aged child if the team is in agreement).

When using an IFSP, the team must explain the difference between an IEP and an IFSP to the parents and obtain their informed written consent. Additionally, the content requirements of an IEP must be included in the IFSP.

A checklist to assist parents when considering preschool through kindergarten placement options for their child who is D/HH may be a useful tool (see Appendix C for Placement Checklist website). The information should be obtained through observation and discussion with the current early intervention provider and the prospective teacher(s) and IEP/IFSP team. Placement decisions should consider the child's communication, pre-academic, and social needs in the context of the proposed natural environment (see Appendix C for Natural Environments document).

**(2) Secondary Transition.** Secondary transition is the process in which students learn about themselves in connection with their post graduate career choice. Students may choose a path that involves further post secondary education or a path that leads straight to work. Students will participate in activities both formally and informally that will lead them in the process of self discovery. This process should include the student, academic staff, parents and family, community members, government, adult community service agencies.

Secondary transition assessment is an important part of this process and is to be done for each student with a disability prior to age 14 (K.S.A. 72-987(c)(8)). Students who are D/HH may have needs in order to be successful on the job or to live independently that hearing students do not encounter, such as assistive technology or how to use an interpreter. There are numerous transition assessments available but it is important to use formal assessments that are designed for the deaf (see Appendix A).

When a student with a disability turns age 14, his or her IEP must include appropriate measurable post-secondary goals based upon age-appropriate transition assessments related to training, education, employment and where appropriate, independent living skills. It must also include the transition services, including appropriate courses of study, needed to assist the student in reaching the stated postsecondary goals. (KSDE, 2008)



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APPENDIX A  
ASSESSMENTS



## KSD OUTREACH RESOURCE TEAM ASSESSMENTS

**REVISED: 4/30/08**

The following assessment tools are used by staff on the KSD Outreach Resource Team. The tests listed are *possibilities* from which to choose. Many, if not most, of the assessments are not normed on students who are deaf/hard-of-hearing. Therefore, most of these assessments require some form of modification which must be noted in the student's evaluation report. In addition, it is critical that the diagnostician who is administering, interpreting, and analyzing these assessments has adequate experience in working with students who are deaf/hard-of-hearing. Finally, test results are best reviewed by a multidisciplinary team who can understand the test results based on the student's communication, intellectual, academic, and hearing ability.

### **Outreach Academic Assessments**

#### *Bracken Basic Concept Scale-3: Receptive*

The BBCS-3: R is a standardized, norm-referenced evaluation tool developed to assess development of basic concepts in children ages 3 years, 0 months through 6 years, 11 months. The BBCS-3: R measures 282 foundational and functionally relevant receptive concepts. These concepts are divided into 10 subtests. The BBCS-3: R yields several types of scores: raw scores, an overall composite score, scaled subtest scores, percentile ranks, descriptive classifications, and concept age equivalents. Results from the BBCS-3: R may be used to identify significant differences that may exist between the child's receptive and expressive knowledge of basic concepts as determined by a discrepancy analysis between the BBCS-3: R and the *Bracken Basic Concept Scale: Expressive*.

#### *Bracken Basic Concept Scale: Expressive*

The BBCS: E is a standardized, norm-referenced evaluation tool developed to assess the ability to verbally label basic concepts in children ages 3 years, 0 months through 6 years, 11 months. The BBCS: E measures 155 foundational and functionally relevant expressive concepts. These concepts are divided into 10 subtests. The BBCS: E yields several types of scores: raw scores, an overall composite score, scaled subtest scores, percentile ranks, descriptive classifications, and concept age equivalents. Results from the BBCS: E may be used to identify significant differences that may exist between the child's receptive and expressive knowledge of basic concepts as determined by a discrepancy analysis between the BBCS: E and the *Bracken Basic Concept Scale-Third Edition: Receptive*.

### *Brigance Inventory of Essential Skills*

The *Brigance* is a comprehensive criterion-referenced assessment used to identify essential skills that have or have not adequately been mastered. The assessment was designed primarily for use in secondary programs serving students with special needs. It provides a means of tracking the student's mastery of those skills that have been identified as essential for mastery if the student is to be able to function successfully and with the greatest degree of independence as a citizen, consumer, worker, and family member. The *Brigance* consists of two major parts, Basic Academic Skills and Applied Skills.

### *Brigance Comprehensive Inventory of Basic Skills*

The *Brigance* is a comprehensive criterion-referenced assessment used to identify basic skills that have or have not adequately been mastered. The assessment was designed primarily for use in elementary and middle schools serving students with special needs. It provides a means of tracking the student's mastery of those skills that have been identified as essential for success at higher grade levels.

### *Test of Early Reading Ability-Deaf or Hard of Hearing*

The TERA-D/HH is a standardized, norm-referenced test. It was normed on students with hearing losses ranging from moderate to profound, ages 3 years, 0 months to 13 years, 11 months. The TERA-D/HH consists of construction of meaning, knowledge of the alphabet and its functions, and the conventions of written language. The TERA-D/HH yields several types of scores: raw score, standard scores, percentile rank, normal curve equivalent (NCE), reading quotient, and an overall rating.

### *Standardized Reading Inventory-2*

The SRI-2 is a standardized, norm- and criterion-referenced test designed primarily to assess children's independent, instructional, and frustration reading levels in word recognition and comprehension skills ages 6 years, 0 months to 14 years, 6 months. The SRI-2 is not normed for deaf/hard-of-hearing students. The results of the SRI-2 may be used in two ways. First, performance in word recognition and comprehension on the SRI-2 provides educators with a student's independent, instructional, and frustration levels. Second, the norms associated with the SRI-2 enable the examiner to compare a student's scores in vocabulary, word recognition, and comprehension with those obtained by his or her peers.

### *Test of Reading Comprehension-3*

The TORC-3 is a standardized, norm-referenced test. It consists of eight subtests grouped under the General Reading Comprehension Core and four Diagnostic Supplements. The TORC-3 is normed for students age 7 years, 0 months to 17 years, 11 months. This evaluation tool is not normed for students who are deaf or hard-of-hearing.

### *Test of Early Written Language-2*

The TEWL-2 is a standardized, norm reference test designed to be used with hearing students ages 3 years, 0 months to 10 years, 11 months. The TEWL-2 is made of two subtests. The Basic Writing subtest provides an indicator of how the student functions in relation to writing in a standardized testing situation. The skills of the Basic Writing subtest are presented in developmental sequence and focus on the functional, mechanical components of writing. The Contextual Writing subtest is designed to provide an indicator of a child's functional, expressive writing skills in a realistic context. The Global score indicates the child's combined overall writing ability.

### *Test of Written Language-3*

The TOWL-3 is a standardized, norm-referenced assessment of various writing skills. It is designed to be used with hearing students ages 7 years, 6 months to 17 years, 11 months. The subtests include vocabulary, spelling, style, logical sentences, sentence combining, contextual conventions, contextual language, and story construction.

### *Oral and Written Language Skills: Written Expression*

The OWLS: WE is normed on hearing students from ages 5 years, 0 months to 21 years, 11 months. Age-based and grade-based Standard Scores, grade and test-age equivalents, percentiles, NCEs and Stanines are obtained from this test of written expressive language. The examiner presents a variety of writing prompts (similar to those found in the classroom) either verbally, with pictures, or in print. The child writes responses in a booklet.

### *Emergent Reading and Writing (Informal)*

The *Emergent Reading and Writing Evaluation* is an informal assessment that can be used to assess any students, no matter what their age, who do not yet independently read unfamiliar text. This evaluation can be used as a pre- and post-test to examine the progress of individual children and consider future instructional plans for them. No standard scores may be gleaned from this assessment.

### *Test of Written Spelling-4*

The TWS-4 is a standardized, norm-referenced test and it is appropriate for students in grades 1 through 12. This test is administered using a dictated word format.

### *KeyMath-3: Diagnostic Assessment*

*KeyMath-3 DA* is a comprehensive, individually administered measure of essential mathematical concepts and skills. It includes 10 subtests that represent three general areas: Basic Concepts, Operations, and Applications. *KeyMath-3 DA* can be used with individuals ages 4 years, 6 months through 21 years, 0 months who are functioning at these instructional levels. The *Keymath-3 DA* provides several types of derived scores: scale scores, confidence intervals, grade and age equivalents, and descriptive categories can be used to describe subtest performance. Standard scores, confidence intervals, grade and age equivalents, percentile ranks, and descriptive categories are used to describe area and Total Test performance.

### *Test of Early Mathematics Ability-3*

The TEMA-3 is a standardized, norm-referenced test that consists of 50 items designed to examine children's informal and formal mathematical knowledge. The norms are based on hearing students ages 3 years, 0 months through 8 years, 11 months. The informal mathematical component includes concepts of relative magnitude, counting, and calculation skills. These are generally concepts learned from exposure in a child's daily environmental interactions. The formal mathematical component includes knowledge of convention, number facts, calculation skills, and base ten concepts. These mathematical skills are usually taught in the classroom once a child begins school.

### *Test of Mathematical Ability-2*

The TOMA-2 is a standardized, norm-referenced measure of math ability that is designed for use with students from ages to 8 years, 0 months to 18 years, 11 months. The TOMA-2 has five subtests, four in the core battery (Vocabulary, Computation, General Information, and Story Problems) and one supplemental subtest (Attitude Toward Math). The standard scores of the core battery are combined to comprise the Math Quotient (MQ).

### *Kaufman Functional Academic Skills Test*

The K-FAST is a brief, normed measure of functional achievement of reading comprehension and mathematical skills. The K-FAST can be used with students ages 15 to above 85. It focuses on everyday, functional abilities which relate to everyday activities that occur outside school settings.

## **Outreach Speech-Language Assessment Methods**

### **Speech Production Assessments:**

#### *Oral Peripheral Examination*

An informal assessment of the oral mechanism to determine whether or not the structure and function of the lips, tongue, teeth and palate are adequate for speech. All ages.

#### *Apraxia-Dysarthria Battery*

Criterion based assessment to determine a child's ability to produce a variety of oral-mechanism movements to assist in differential diagnosis of oral apraxia and dysarthria.

#### *Screening Test for the Developmental Apraxia of Speech (STDAS)*

Standardized assessment to determine the probability that the individual does or does not belong to the apraxia group and whether further testing is warranted. Hearing Norms age 4-12 yrs (language age 3-13.5 yrs).

#### *NTID Voice Rating Scale*

A rating is obtained for various aspects of voice from a tape-recorded oral reading passage or conversational speech to determine if any of these aspects significantly interfere with intelligibility. Developed for profoundly deaf students.

#### *Children's Speech Intelligibility Measure*

Single word imitative speech intelligibility test. Children ages 3 yrs to 10 yrs, 11 mo; older students if intelligibility is an issue.

#### *Speech Intelligibility Evaluation (SPINE)*

Single word spontaneous picture naming speech intelligibility test. Developed for severely HI and profoundly deaf students up through mid-elementary age.

*Arizona Articulation Proficiency Scale-Third Edition (AAPS-3)*

Standardized articulation test including single word picture naming, orally read sentences and picture cued story test. Hearing norms: 1-6 to 13-11 years.

*Goldman-Fristoe-2*

Standardized articulation test including single word picture naming, picture cued spontaneous story test and stimulability testing. Hearing norms: 2-0 to 21 years.

*Identifying Early Phonological Needs in Children with Hearing Impairment (IEPN)*

Assesses a HI child's spontaneous use of first level phonological patterns (picture cued). Developed for D/HH children who are at a very low level of verbal communication performance, regardless of age.

*Phonological Awareness Test*

Standardized test for phonological processing and phoneme-grapheme correspondence on tasks correlated with success in early reading and spelling achievement. Normed on hearing children ages 5 yrs to 9-11 yrs.

*KSD Pronunciation Screening Test*

Test for verbal word attack skills including grammatical markers, syllable division, final sound production and pronunciation rule production from an oral reading passage. Developed for D/HH students.

Speechreading Assessments:

*Children's Audiovisual Enhancement Test (CAVET)*

Standardized test comparing the difference between word recognition in a vision-only condition (lipreading) versus word recognition in an audition-plus-vision condition (speechreading). Normed on D/HH children with cochlear implants, ages 8-0 to 9-11. Can be administered to D/HH age 7 through adult.

*Children's Speechreading Test*

Speechreading skills for identification of objects and pictures for words, phrases and simple directions. D/HH norms: 1-9 years.

*Craig Lipreading Inventory (CRAIG)*

A percentage and rating are obtained for speechreading skills for word and sentence recognition. Deaf norms: Preschool and Non-Preschool Means.

*Utley Sentence Test of Lipreading (UTLEY)*

A percentage and rating are obtained for speechreading skills on open-set, functional phrases/sentences. Early elementary through adult.

Language assessments normed on/or developed for children who are deaf/hard of hearing:

*Carolina Picture Vocabulary Test (CPVT)*

Standardized test assessing receptive single word signs. Deaf norms: 4-12 yr.

*Grammatical Analysis of Elicited Language – Pre-Sentence Level (GAEL-P)*

Standardized play based test for comprehension, imitated production and prompted production at the single word and word-combination level. Deaf norms: 3-6 years; hearing norms: 2.5 - 4 years.

*Grammatical Analysis of Elicited Language – Simple Sentence Level (GAEL-S)*

Standardized expressive test for imitated and prompted, spoken and/or signed English production of simple sentences. Deaf (TC) norms: 5-8 years; Deaf (oral) norms: 5-9 yrs; HH (oral) norms: 4-8 yrs; hearing norms: 2.5 - 5 yrs.

*Grammatical Analysis of Elicited Language – Complex Sentence Level (GAEL-C)*

Standardized expressive test for imitated and prompted, spoken and/or signed English production of complex sentences. Deaf norms: 8-12 years; HH norms: 8-12 years; hearing norms: 3-6 years

### *Interactive Language Analysis*

Criterion referenced analysis of a language sample for Pragmatics, Semantics, Discourse Features, Mode of Communication, Mean Length of Utterance, Unintelligible Responses and Syllable Length. Developed for preschool and younger deaf students.

### *KSD Kretschmer Developmental Questions Screening Test (KDQ)*

Criterion referenced test for answering developmentally sequenced questions. Developed for D/HH students elementary through high school.

### *Pragmatic Checklist*

Criterion referenced checklist of interactive language skills for 28 pragmatic objectives. Developed for D/HH children.

### *Rhode Island Test of Language Structure (RITLS)*

Standardized receptive test for comprehension of spoken/signed syntax. Hearing norms: 3.5 to 6 years. Deaf/HH norms: 5 to 17+ years.

### *Rhode Island Test of Language Structure-Modified (RITLS-M)*

Criterion referenced receptive test for comprehension of printed syntax. Developed for D/HH students elementary through high school.

### *Scales of Early Communication Skills for Hearing Impaired Children (SECS-HI)*

Standardized assessment of non-verbal and verbal receptive and expressive language skills. HI (oral) norms: 2 to 8-11 years.

### *Spoken Language Predictor (SLP)*

A score is derived from test results and observations that provide information on the most appropriate mode of communication for the child who is D/HH based on predictor factors that contribute to successful spoken language acquisition.

### *Structured Photographic Expressive Language Test-Modified (SPELT-M)*

Criterion referenced test for expressive *written* morphology and syntax. Developed for D/HH students elementary through high school.

### *Teacher Analysis of Grammatical Structures (TAGS)*

A checklist for comprehension and spoken and/or signed English production of single words, phrases, and sentences. Developed for D/HH children.

### *Test of Relational Concepts-Deaf/Hard of Hearing (TRC-D/HH)*

Standardized receptive test for comprehension of basic concepts. Deaf norms: 5-13 years.

### *Test of Syntactic Abilities-Screening (TSA)*

Criterion referenced and standardized test of receptive syntax. Deaf norms: 10 to 18-11 yrss

## Language assessments normed on Hearing children:

### *Assessment of Children's Language Comprehension (ACLC)*

Measures comprehension of critical elements of increasing length (1 to 4 critical elements). Hearing: 3 - 6.5 years.

### *Clinical Evaluation of Language Fundamentals-Preschool-2 (CELF-P-2)*

Standardized test sampling overall language skills both receptively and expressively. Hearing norms: 3 to 6-11 years.

### *Clinical Evaluation of Language Fundamentals-4 (CELF-4)*

Standardized test sampling overall language skills both receptively and expressively. Hearing norms: 5 to 21-11 years.

### *Communication and Symbolic Behavior Scales (CSBS)*

A profile is established of receptive and expressive communicative, social-affective and symbolic abilities/functioning of developmentally young children. Hearing norms: functional communication age 8 mo to 2 yrs; CA 9 mo to 6 yrs.

### *Expressive Language Test (ELT)*

Standardized test of language knowledge and flexibility with expressive language skills through school-related expressive semantic and syntactic language tasks. Hearing norms: 5- 11-11 years (CA or language age).

### *Expressive One-Word Picture Vocabulary Test-3<sup>rd</sup> Edition (EOWPVT-3)*

Standardized test for expressive single-word vocabulary skills. Hearing norms: 2-0 to 18-11 years.

### *Expressive Vocabulary Test-2 (EVT-2)*

Standardized test for expressive single-word vocabulary skills including naming and synonyms. Hearing norms 2-90 years.

### *HELP-Elementary (HELP-E)*

Standardized test for general expressive language including vocabulary, semantics, word order and question grammar. Hearing norms: 6 to 11-11 yrs.

### *Language Processing Test-3 (LPT-3)*

Standardized expressive test for language processing skills. Hearing norms age 5-12 yrs.

### *MacArthur Communicative Development Inventory-Words & Gestures (MCDI-W&G)*

Standardized receptive and expressive inventory completed by parents on a child's gestures, vocabulary and phrases. Hearing norms: 8-16 mo.

### *MacArthur Communicative Development Inventory-Words & Sentences (MCDI-W&S)*

Standardized expressive inventory completed by parents on a child's vocabulary, sentences and grammar. Hearing norms: 16-30 mo.

### *Peabody Picture Vocabulary Test-4 (PPVT-4)*

Standardized receptive single word vocabulary test. Hearing norms: 2.5 to 90+ years.

### *Preschool Language Assessment Instrument-2 (PLAI-2)*

Standardized receptive and expressive test to determine a level of mastery of classroom discourse demands. Hearing norms: 3 to 6 years.

### *Preschool Language Scale-4 (PLS-4)*

Standardized receptive and expressive test for early developing language skills. Hearing norms: birth to 6-11 years.

### *Receptive-Expressive Emergent Language Test-3 (REEL-3)*

Standardized receptive and expressive observational checklist for emergent receptive and expressive language problems in infants and toddlers. Hearing norms: birth to 3 years and older preschoolers with obvious delays.

### *Receptive One-Word Picture Vocabulary Test-2 (ROWPVT-2)*

Standardized receptive single word vocabulary test. Hearing norms: 2 to 18-11 years.

### *Rossetti Infant-Toddler Language Scale (ROSETTI)*

Standardized receptive and expressive checklist for Interaction-Attachment, Pragmatics, Gesture, Play, Language Comprehension and Language Expression. Hearing norms: birth to 36 months

### *Spoken Language Sample*

A spoken language sample is obtained and analyzed for accuracy, complexity and mean length of utterance.

*Structured Photographic Expressive Language Test-Preschool (SPELT-P)*

Standardized expressive test for early developing morphological and syntactic features. Hearing norms: 3 to 5-11 years.

*Structured Photographic Expressive Language Test-3 (SPELT-3)*

Standardized test for expressive morphology and syntax. Hearing norms: 4 to 9-11 years.

*Test of Pragmatic Language (TOPL)*

Standardized expressive test for pragmatic language skills. Hearing norms: 5-12 years.

*Test of Pragmatic Skills*

Standardized expressive test for pragmatic language skills. Hearing norms: 3 to 8-11 yrs.

*Test of Problem Solving-3 (TOPS-3)*

Standardized expressive test for language-based critical thinking skills. Hearing norms: 6 to 12-11 years

*Test of Relational Concepts (TRC)*

Standardized receptive test for comprehension of basic concepts. Hearing norms: 3-8 years.

*Test of Semantic Skills-Primary (TOSS-P)*

Standardized test of receptive and expressive semantic skills. Hearing norms: 4-0 to 8-11 years.

*Test of Semantic Skills-Intermediate (TOSS-I)*

Standardized test of receptive and expressive semantic skills. Hearing norms: 9-13 years.

*Test of Word Knowledge (TOWK)*

Standardized test of receptive and expressive semantics. Hearing norms: 5-17 years.

*Token Test for Children (TOKEN)*

Standardized receptive test of following commands of increasing length and complexity. Hearing norms: Preschool - Grade 6 and 3 to 12.5 years.

*The WORD Test-2 (WORD-2)*

Standardized test of expressive semantics. Hearing norms: 6 to 12 years.

*The WORD Test-2-Adolescent (WORD-2-A)*

Standardized test of expressive semantics. Hearing norms: 12 to 18 years.

## Early Childhood Assessments

### **The Preschool Language Scale-4 (PLS-4)** <http://marketplace.psychcorp.com>

The PLS-4 is a standardized test of auditory comprehension and expressive communication for infants and toddlers.

### **Meaningful Auditory Integration Scale (MAIS)/Infant-Toddler: Meaningful Auditory Integration Scale (IT-MAIS).** <http://www.cochlearimplant.com>

These scales were developed for infants and toddlers with a profound hearing loss and designed to be administered to parents by an audiologist. The parent is asked questions regarding use of amplification/cochlear implant and auditory behaviors regarding environmental and speech sounds.

### **The Rossetti Infant-Toddler Language Scale: A Measure of Communication and Interaction,** <http://www.linguisystems.com>

The Rossetti Infant-Toddler Language Scale was designed to provide the clinician with a comprehensive, easy-to-administer, and relevant tool to assess the preverbal and verbal aspects of communication and interaction in the young child.

### **Grammatical Analysis of Elicited Language, Pre-Sentence Level (GAEL-P)** [dgushleff@cid.wustl.edu](mailto:dgushleff@cid.wustl.edu)

This test contains three sections: readiness skills, single words, and word combinations.

### **Cottage Acquisition Scales for Listening Language Speech (CASLL)-**<http://www.agbell.org/>

This developmental checklist is for assessment and planning for diagnostic therapy. The listening section progresses from sound awareness to comprehension of paragraphs including listening skills.

### **Auditory-Verbal Ages and Stages of Development (Levels I-VIII) in Cochlear Implants for Kids.** <http://www.agbell.org/>

This checklist outlines the development of listening from sound awareness to auditory comprehension.

### **Early Listening Function (ELF) (Anderson)**

[http://www.phonak.com/com\\_elf\\_questionnaire\\_gb.pdf](http://www.phonak.com/com_elf_questionnaire_gb.pdf)

The Early Listening Function instrument has been designed to obtain an indication of the functional use of hearing in very young children. The ELF has three primary purposes: parent involvement and empowerment, estimating amplification benefit, and tracking improvements in auditory development

### **Functional Auditory Performance Indicators (FAPI): An Integrated Approach to Auditory Development.** Available on line at: [http://www.csdb.org/chip/resources/docs/fapi6\\_23.pdf](http://www.csdb.org/chip/resources/docs/fapi6_23.pdf)

The FAPI assesses the functional auditory skills of children with hearing loss. It examines seven categories of auditory development.

### **Peabody Picture Vocabulary Test (PPVT-4),** [www.agsnet.com](http://www.agsnet.com)

The PPVT measures a child's understanding of individual words (receptive vocabulary). It is designed for children 2 years 6 months to 18 years of age.

**Expressive One-Word Picture Vocabulary Test (EOWPVT)**, <http://www.superduperinc.com>  
The EOWPVT assesses a child's English speaking vocabulary by asking the child to name objects, actions and concepts pictured in illustrations. It is designed for children 2-0 to 18-11.

**Bracken Basic Concept Scale – Third Edition: Receptive (BBCS-3:R)**

<http://harcourtassessment.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=015-8338-855>

The BBCS-3: R evaluates the acquisition of basic concepts of a child, 3:0 through 6:11 years, which is strongly related to cognitive and language development as well as early childhood academic achievement.

**Bracken Basic Concept Scale: Expressive (BBCS:E)**

<http://harcourtassessment.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=015-8338-928>

The BBCS: E evaluates the acquisition of basic concepts of a child 3:0 through 6:11 years, expressively, to determine the cognitive and language development for childhood academic achievement.

**Test of Early Math Ability-3**, [http://www.slosson.com/onlinecatalogstore\\_c161189.html](http://www.slosson.com/onlinecatalogstore_c161189.html)

- A. The TEA-3 is a standardized test that consists of informal and formal components of early mathematical thinking. The test is norm-referenced and the norms are based on hearing student's age's three years to eight years eleven months.

**Phelps Kindergarten Readiness Scale** <http://great-ideas.org/PKRS.htm>

This tool is norm-referenced and assesses the academic readiness of children for kindergarten. It evaluates three areas or domains predictive of later school achievement.

**INSITE Developmental Checklist Instructional Manual: Assessment of Developmental Skills for Young Multidisabled Sensory Impaired (MSI) Children ,**

<http://hopepubl.com/proddetail.php?prod=404>

This checklist for ages 0-6 years of age assesses the areas of gross motor, fine motor, self-help, cognition, social, emotional, communication, vision, auditory, and tactile development. The checklist can be used by the parent advisor and parents in the home and results can be used to plan appropriate goals and activities for the family. All behaviors are cross-referenced to activities in specified curricula that can be used to promote skills.

**Communication and Symbolic Behavior Scales™ (CSBS),**

<http://www.brookespublishing.com/store/books/wetherby-csbs/index.htm>

CSBS™ is a norm-referenced, standardized instrument used to assess infants, toddlers, and preschoolers at risk for communication delays and impairments.

**Speech Perception Instructional Curriculum and Evaluation (SPICE)** Available through:

Central Institute for the Deaf, 4560 Clayton Avenue, St. Louis, MO 63110 or

<http://www.cid.edu/home/PUBLICATIONS/test&curricula.htm>

SPICE is a curriculum kit for developing speech/listening skills/processing skills in children who use either cochlear implants or hearing aids. It is designed for children ages 3 through 12.

**Word Associations for Syllable Perception (WASP),**

[http://www.bionicear.com/printables/AB\\_Rehab\\_Materials\\_2006.pdf](http://www.bionicear.com/printables/AB_Rehab_Materials_2006.pdf)

The WASP consists of cards and a diagnostic scoring system. It starts with single phonemes and simple syllables. Then systematically introduce words with increasingly complex combinations from consonant-vowel-consonant (CVC) words of level 2, to CVC words in Level 4.

**Comfort Level Checklist for Auditory-Verbal Families** (Sunshine Cottage School for Deaf children, San Antonio, Texas) [www.sunshinecottage.org/Products/comfortlevelShecklist.aspx](http://www.sunshinecottage.org/Products/comfortlevelShecklist.aspx).

These checklists were developed to provide a framework for encouraging and guiding parents/primary caregivers in understanding the impact of hearing loss on their family as well as on the development of listening, language and speech for their child with a hearing loss.

## ASL Assessments

**MacArthur Communicative Developmental Inventory for ASL for Children** (SOURCE: Anderson, Diane. 1992. University of California, Berkeley.)

**Description:**

The MacArthur Communicative Developmental Inventory for ASL for Children is a vocabulary checklist to assess Deaf and Hard-of-Hearing infants and preschoolers' communicative vocabulary. Areas of ASL vocabulary include animals, clothing, games and routines, action signs, furniture and rooms, toys, people, food and drink, connecting signs, prepositions and locations, outside things, pronouns, places to go, quantifiers, question signs, small household items, signs about time, helping verbs, and descriptive signs.

**Kendall Conversational Proficiency (P-Level)** (SOURCE: French, Martha. 1999. Starting with Assessment. Washington, DC: Gallaudet University; French, Martha. 1999. The Toolkit. Washington, DC: Gallaudet University.)

**Description:**

P-Level assesses Deaf and Hard-of-Hearing students in preschool through elementary school in the area of conversational proficiency using P-Level scale. Students' proficiency of conversational language is assessed in natural settings and one-on-one videotaped conversation to see how students use language in everyday contexts and kinds of knowledge that underlie their conversational abilities needed for academic language development. There are eight levels with Level 7 being the highest.

**ASL Proficiency Interview** (SOURCE: Gallaudet University)

**Description:**

ASL Proficiency Interview is an adaptation of the Oral Proficiency Interview to assess Deaf and Hard-of-Hearing students' use of signed language based on a face-to-face interactive interview. ASL criteria include vocabulary, fluency, grammar, sign production, and comprehension. Three native/near-native interviewers conduct a series of "probe and check" techniques to guide the students being tested to his or her maximum level of proficiency, and then the given rates from the three interviewers are averaged to determine students' ASL proficiency levels. This tool is appropriate for K-12 grade levels.

**ASL Proficiency Assessment (ASL-PA)** (SOURCE: Maller, Susan, Singleton, Jenny L., Supalla, Samuel J., & Wix, Tina. 1999. The development and psychometric properties of the American Sign Language Proficiency Assessment. *Journal of Deaf Studies and Deaf Education* 4:4, p. 249-269)

**Description:**

ASL-PA assesses Deaf and Hard-of-Hearing students grades preschool through 12th in three different types of discourse: Interview, Peer Interaction, and Story Retelling. The first two discourse samples are limited to 10 minutes in length, while the Story Retelling sample is typically 5 minutes or less. A total of 23 target features to determine students' ASL proficiency levels include, but are not limited to, sign production, role shifting, classifiers, noun-verb pair production, aspect, question types, topics and conditionals.

**ASL Development Observation Record** (SOURCE: California School for the Deaf, Fremont)

**Description:**

ASL Development Observation Record is used on Deaf and Hard-of-Hearing preschoolers to determine their proficiency in communicative intent, ASL comprehension, and ASL production using a checklist. Levels include emerging, developing and proficient.

**Fairview ASL Assessment** (SOURCE: Fairview Learning Corporation)

**Description:**

Fairview ASL Assessment, a component of the Fairview Learning program, assesses K-3 Deaf and Hard-of-Hearing students' ASL skills using a checklist in the areas of classifiers, body language, facial expressions, directional verbs, telling story in order, and descriptive language during their conversation and storytelling activities.

**The Carolina Picture Vocabulary Test** (SOURCE: Layton, T.L. & Holmes, D.W., 1985)

**Description:**

The Carolina Picture Vocabulary assesses Deaf and Hard-of-Hearing students in preschool through elementary school in the area of receptive sign vocabulary. Students point to the picture to match the signed vocabulary



APPENDIX B  
COMMUNICATION PLAN TEMPLATE





The following is a *Communication Plan Template* teams may use to guide and document discussions regarding language and communication needs when developing, reviewing, and/or revising an Individual Education Program (IEP) for children who are deaf or hard of hearing; it is not intended to be part of the official IEP document.

Student's name: \_\_\_\_\_ Date: \_\_\_\_\_

*IDEA 2004, 34 CFR 300.324. 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:

**A. Consider the child's language and communication needs,**

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

- | Receptive                | Expressive               |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | American Sign Language                      |
| <input type="checkbox"/> | <input type="checkbox"/> | English                                     |
| <input type="checkbox"/> | <input type="checkbox"/> | Other native language (spoken/signed) _____ |

2. The student's **primary communication mode** is one or more of the following (check all that apply):

Receptive	Expressive
<input type="checkbox"/> American Sign Language	<input type="checkbox"/> American Sign Language
<input type="checkbox"/> Spoken English/Oral	<input type="checkbox"/> Spoken English/Oral
<input type="checkbox"/> Conceptually Accurate Signed English	<input type="checkbox"/> Conceptually Accurate Signed English
<input type="checkbox"/> Fingerspelling	<input type="checkbox"/> Fingerspelling
<input type="checkbox"/> Gestures	<input type="checkbox"/> Gestures
<input type="checkbox"/> Manually Coded English	<input type="checkbox"/> Manually Coded English
<input type="checkbox"/> Tactile	<input type="checkbox"/> Tactile
<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____

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

3. The child's language and communication needs:

What is the child's primary communication/language use in various settings? Note for all environments.

	ASL	English-Based signs	Sign Supported Speech	Spoken English/ Oral	Receptive language- Sign/Expressive Language – spoken	Other, Please describe
Home/Community						
School						
With adults						
With Peers						

Note any issues considered:

Action Plan, if any

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

**B. Consider opportunities for direct\* communication with peers and professional personnel and opportunities for instruction in the child’s language and communication mode** 

The IEP team has considered: (These opportunities may be provided by the school or family).

1. Opportunities for direct\* communication with professional staff and other school personnel.  
Describe opportunities
2. Opportunities for direct\* communication with peers.  
Describe opportunities
3. Opportunities for direct\* instruction.  
Describe opportunities

**\* Direct communication/instruction means person to person, not through an additional source like educational interpreter, paraprofessional, etc.**

**C. Consider academic level** 

1. What is the student’s academic level in relation to their deaf/hard of hearing and hearing peers?  
What accommodations or modification are recommended so this student can achieve along with their peers?
2. Are the student’s communication and language skills proficient/sufficient to acquire grade-level academic skills and concepts of the general education curriculum?

Yes: What supports are needed to continue proficiency in grade-level academic skills and concepts of the general education curriculum?

No: What supports are needed to increase the student’s proficiency in his/her language and communication to acquire grade-level academic skills and concepts of the general education curriculum

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

**D. Consider full range of needs.**



What are the “*full range of needs*” for this student? (check all that apply and address in IEP).

- Opportunity to interact with D/HH adult role models
- Staff able to meet the linguistic needs of the student utilizing the student’s primary means of communication.
- Access to technology that supports communication.
- Acoustic accessibility for students using auditory/oral communication including those with cochlear implants
- Social interaction
- Transition information that is supportive of people who are D/HH.
- Parent involvement in supporting strong communication skills at home.
- Other:

**E. Consider Behavioral Issues**



A student who is D/HH may demonstrate behaviors that indicate when learning is impeded due to poor acoustics, poor or insufficient visual information, or language expectations beyond the student’s abilities. These behaviors may include, (but are not limited to): Poor attention span due to fatigue, restlessness, inattentiveness, “tuning out”, class clown, anxiety, complaining of not knowing or not understanding, etc.

Does the student’s behavior affect his/her learning or that of others? Yes \_\_\_ No \_\_\_

Have interventions been applied? Yes \_\_\_ No \_\_\_

What specific interventions/accommodations/modifications to the behaviors have been applied?

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

Even after the specific interventions/accommodations/modifications to the behaviors have been applied, does the team feel that a behavior intervention plan needs to be developed? Yes \_\_\_\_ No \_\_\_\_

- If Yes? has the Functional Behavior Assessment been conducted?
- \_\_\_ Based on the FBA, does the team feel that a behavior intervention plan needs to be developed?
  - \_\_\_ Has a Behavior Intervention Plan been developed that takes into consideration the child's communication needs and issues?

Discussion:

Action Plan to help:

**VI. Continuum of placement options and Language Rich Environment** 

An accurate and complete explanation of the continuum of educational placement options has been provided and considered. The IDEA mandates that the placement for each student with a disability be only as restrictive as the student's individual needs require. The basic regulatory requirement is that students are only removed from regular education classroom if they cannot be educated satisfactorily in regular classes with the use of supplementary aids and services (34 CFR Sec. 300.550)

Language, communication, and other issues considered related to LRE:

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

## VII. Accommodations and Modifications



### IEP Checklist: Recommended Accommodations and Modifications for Students Who Are Deaf or Hard of Hearing

#### Amplification Options

- Personal hearing device (hearing aid, tactile device)
- Personal FM system (hearing aid + FM)
- FM system/auditory trainer (without personal hearing aid)
- Walkman-style FM system
- Sound-field FM system

#### Assistive Devices

- TDD/TTY
- Open or closed captioning
- Video phone
- Other

#### Communication Accommodations

- Specialized seating arrangements:
- Obtain student's attention prior to speaking
- Reduce auditory distractions (background noise)
- Reduce visual distractions
- Enhance speech reading conditions (avoid hands in front of face, mustaches well-trimmed, no gum chewing)
- Present information in simple, structured, sequential manner
- Clearly enunciate speech
- Allow extra time for processing information
- Repeat or rephrase information when necessary
- Frequently check for understanding
- Educational interpreter (ASL, signed English, cued speech, oral)
- Direct Communication

#### Physical Environment Accommodations

- Noise reduction (carpet & other sound absorption materials)
- Specialized lighting
- Room design modifications
- Flashing alarms for fire, weather, lockdown

#### Instructional Accommodations

- Use of visual supplements (overheads, interactive whiteboards, chalkboards, charts, vocabulary lists, lecture outlines)
- Captioning or scripts for television, videos, movies, filmstrips
- Buddy system for notes, extra explanations/directions
- Check for understanding of information
- Down time/break from listening
- Extra time to complete assignments
- Step-by-step directions
- Tutor
- Notetaker
- Interactive TV

#### Curricular Modifications

- Modify reading assignments (shorten length, adapt or eliminate phonics assignments)
- Modify written assignments (shorten length, adjust evaluation criteria)
- Pre-tutor vocabulary
- Provide supplemental materials to reinforce concepts
- Provide extra practice
- Alternative curriculum

#### Evaluation Modifications

- Reduce quantity of tests
- Use alternative tests
- Provide reading assistance with tests
- Allow extra time
- Other modifications:

#### Other Needs/Considerations

- Supplemental instruction (speech, language, pragmatic skills, auditory, speechreading skills)
- Counseling
- Sign language instruction
- Vocational services
- Family supports
- Parent Counseling & Training
- Deaf/Hard of Hearing role models
- Recreational/Social opportunities
- Financial assistance
- Transition service

\*Kansas Ad Hoc Committee on the Deaf and Hard of Hearing Children's Educational Bill of Rights "Implementing the Deaf Child's Bill of Rights: Guidelines For Schools. Final draft June 5, 2007.

1 Johnson, CD, Benson, P, & Seaton, J. 1997. Educational Audiology Handbook, Appendix 1 amended by the Kansas Ad Hoc Committee for D/HH Children's Bill of Rights, 2007.

Team Members Involved:

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This Communication Plan is adapted from Wisconsin Department of Public Information "IEP Tool Supporting Discussion on Consideration of Special Factors (IDEA 2004) when a Student is Deaf or Hard of Hearing and Communication plans from Nebraska State Department of Education, Iowa Department of Education, Colorado Department of Education, Arkansas Department of Education, and Louisiana Department of Education. Modifications were made by the Core Writing Committee for the Kansas Guide for the Education of Children Who Are Deaf or Hard of Hearing (2008).



APPENDIX C  
RESOURCES



## WEBSITE RESOURCES

- Alexander Graham Bell Association for the Deaf and Hard of Hearing <http://www.agbell.org>
- American Sign Language Literacy Think Tank <http://www.ASLthinktank.com>
- American Sign Language: Position Statement National Association of the Deaf  
<http://www.nad.org/site/pp.asp?c=foINKQMBF&b=176627>
- American Speech-Language-Hearing Association (ASHA)  
<http://www.asha.org/about/legislation-advocacy/federal/idea/nat-env-child-facts.htm>
- ASL as a Foreign Language <http://www.ericdigests.org/1999-4/sign.htm>
- ASL Rose <http://www.aslrose.com/welcome.php>
- Boys Town National Research Hospital <http://www.boystownhospital.org/Hearing/index.asp>
- Boy's Town Web site on Classroom Interpreting  
<http://classroominterpreting.org/Interpreters/children/Learning/index.asp>
- Building Languages: A Parent's Guide to Hearing Loss  
<http://www.cdc.gov/ncbddd/ehdi/CDROM/building/index.html>;
- Cochlear Implant Education Center <http://clerccenter.gallaudet.edu/CIEC/index.html>
- Council for Exceptional Children <http://www.cec.sped.org/>
- Deaf Education <http://www.deafed.net/>
- DHH Resources for General Education <http://www.deafed.net/PageText.asp?hdnPageId=97>
- Deaf History Timeline [http://members.aol.com/deafcultureinfo/deaf\\_history.htm](http://members.aol.com/deafcultureinfo/deaf_history.htm)
- Deaf Mentor Curriculum <http://hopepubl.com/proddetail.php?prod=102>
- Deaf Mentor Project <http://www.wesp-dhh.wi.gov/Programs/deafmentorproject.htm>
- Deaf Performing Arts Network (D-PAN)  
[http://dpan.com/index.php?option=com\\_content&task=view&id=36&Itemid=45](http://dpan.com/index.php?option=com_content&task=view&id=36&Itemid=45)
- Early Hearing Detection and Intervention (EHDI) <http://www.infanthearing.org/ehdi.html>
- EHDI, Early Hearing Detection, & Intervention Program <http://www.cdc.gov/ncbddd/ehdi/default.htm>
- Functional Listening Evaluation [http://www.handsandvoices.org/pdf/func\\_eval.pdf](http://www.handsandvoices.org/pdf/func_eval.pdf)
- Hands & Voices <http://www.handsandvoices.org/index.htm>
- Joint Commission on Infant Hearing (JCIH) <http://pediatrics.aappublications.org/cgi/reprint/120/4/898>

Kansas Department of Health and Environment, Infant-Toddler Services in Kansas  
<http://www.kdheks.gov/its/index.html>

Kansas Department of Health and Environment, Sound Beginnings <http://www.soundbeginnings.org>

Kansas Hands & Voices Chapter [http://www.handsandvoices.org/articles/articles\\_index.html#ref](http://www.handsandvoices.org/articles/articles_index.html#ref)

Kansas Multi-Tier System of Supports <http://kansasmtss.org/>

Kansas State Department of Education <http://www.ksde.org/>

Kansas School for the Deaf <http://www.ksdeaf.org/>

Laurent Clerc National Deaf Education Center, Gallaudet University <http://clerccenter.gallaudet.edu/>

Listen Up <http://www.listen-up.org/edu/teach.htm>

Marion Downs National Center <http://www.colorado.edu/slhs/mdnc/>

My Baby's Hearing, Boystown <http://www.babyhearing.org>

National Association of the Deaf <http://www.nad.org>

National Center for Hearing Assessment and Management (NCHAM) <http://www.infanthearing.org/>

National Technical Institute for the Deaf (NTID) <http://www.ntid.rit.edu/ntidweb/resources.php>

Oral Deaf Education <http://www.oraldeafed.org>

Placement Checklist <http://www.handsandvoices.org/resources/docs.htm>

Raising Deaf Kids <http://www.raisingdeafkids.org/>

Registry of the Interpreters for the Deaf <http://www.rid.org>

SEE Center for the Advancement of Deaf Children <http://www.seecenter.org>

Shared Reading Project <http://clerccenter.gallaudet.edu/Literacy/srp/index.html>

Technical Assistance (TA) Communities  
[http://www.nectac.org/~pdfs/topics/families/Finalmissionandprinciples11\\_26\\_07.pdf](http://www.nectac.org/~pdfs/topics/families/Finalmissionandprinciples11_26_07.pdf)

## RESOURCES FOR TRANSITION

Laurent Clerc National Deaf Education Center Gallaudet University  
<http://clerccenter.gallaudet.edu/Transition/index.html>

PEPNet: Advancing Educational Opportunities for People who are Deaf or Hard of Hearing  
<http://www.pepnet.org>

The Western Region Outreach Center & Consortia (WROCC)  
<http://www.wou.edu/wrocc>

## DOCUMENTS

Natural Environments for Infants and Toddlers who are Deaf or Hard of Hearing and Their Families: Fact Sheet. (date). Retrieved October 28, 2008 from, <http://www.asha.org/about/legislation-advocacy/federal/idea/nat-env-child-facts.htm>

DesGeorges, J. (2005). Deaf education reform: The time is now! Retrieved April 4, 2008 from, [http://www.handsandvoices.org/articles/education/deaf\\_ed\\_reform/time\\_now.html](http://www.handsandvoices.org/articles/education/deaf_ed_reform/time_now.html)

Luckner, J.L. (date). Facilitating the transition of students who are deaf or hard of hearing. Retrieved October 28, 2008 from, <http://www.proedinc.com>

Kansas State Department of Education, Special Education Services. (2008, February). *Kansas special education process handbook*. Topeka: from, <http://www.ksde.org/Default.aspx?tabid=3152>

Schneider, E. (2002). *Early education for hearing impaired in school: The individuals with disabilities education act promised each child educated in America an education in the least restrictive environment*. Retrieved March 31, 2008 from, [http://www.essortment.com/all/earlyeducation\\_rzde.htm](http://www.essortment.com/all/earlyeducation_rzde.htm)

Seaver, L. (2001). *The communication gap: Why we need to reform deaf education*. Retrieved March 31, 2008 from, [http://www.handsandvoices.org/articles/education/deaf\\_ed\\_reform/com\\_gap.html](http://www.handsandvoices.org/articles/education/deaf_ed_reform/com_gap.html)

Zapfen, C. (1998). *Options in deaf education: History, methodologies, and strategies for surviving the system*. Retrieved March 28, 2008 from, <http://www.listen-up.org/edu/options1.htm>





# Kansas State Board of Education

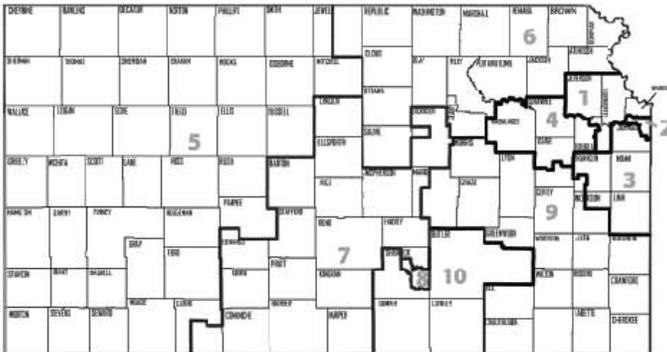
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Ensure that all students meet or exceed high academic standards and are prepared for their next steps (e.g., the world of work and/or post secondary education). To accomplish the mission of the Kansas State Board of Education, the Board has identified four goals. They are as follows:

- Redesign the delivery system to meet our students' changing needs.
- Provide an effective educator in every classroom.
- Ensure a visionary and effective leader in every school.
- Improve collaboration with families and communities, constituent groups and policy partners.

Kansas State Board of Education  
Adopted 5/2009



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