

Students Who Are Deaf and Hard of Hearing and Use Sign Language: Considerations and Strategies for Developing Spoken Language and Literacy Skills

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ABSTRACT

There is a core body of knowledge, experience, and skills integral to facilitating auditory, speech, and spoken language development when working with the general population of students who are deaf and hard of hearing. There are additional issues, strategies, and challenges inherent in speech habilitation/rehabilitation practices essential to the population of deaf and hard of hearing students who also use sign language. This article will highlight philosophical and practical considerations related to practices used to facilitate spoken language development and associated literacy skills for children and adolescents who sign. It will discuss considerations for planning and implementing practices that acknowledge and utilize a student's abilities in sign language, and address how to link these skills to developing and using spoken language. Included will be considerations for children from early childhood through high school with a broad range of auditory access, language, and communication characteristics.

KEYWORDS: Deaf and hard of hearing students (DHH), sign language, auditory and speech habilitation/rehabilitation, literacy DHH

Learning Outcomes: As a result of this activity, the reader will be able to (1) describe the recommended competencies for speech language pathologists when working with students who are deaf or hard of hearing (DHH) and use sign language; (2) describe strategies for implementing auditory/speech/spoken language and literacy strategies unique to the population of students who are DHH and use sign language; (3) describe

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Maximizing Intervention for Children Who Are Deaf and Hard of Hearing; Guest Editors, Cheryl

DeConde Johnson, Ed.D. and Christine Yoshinaga-Itano, Ph.D.

Semin Speech Lang 2012;33:310–321. Copyright © 2012 by Thieme Medical Publishers, Inc., 333 Seventh Avenue, New York, NY 10001, USA. Tel: +1(212) 584-4662.

DOI: <http://dx.doi.org/10.1055/s-0032-1326912>.
ISSN 0734-0478.

special considerations and strategies for engaging adolescents who are DHH in auditory, speech, spoken language, and literacy habilitation/rehabilitation; and (4) describe literacy resources that can be adapted for use with students who are DHH and use sign language.

Many children who are deaf or hard of hearing (DHH) use both sign language and spoken language.^{1*} The core principles and practices for facilitating auditory, speech, and spoken language for this population of children and adolescents are in many ways similar to those used for children who use spoken language only. Unique philosophical and practical considerations guide the design and implementation of practices that facilitate spoken language development and the associated literacy skills for children and adolescents who sign. This article focuses on considerations that acknowledge and utilize a student's abilities in sign, and addresses how to link these skills to developing and using spoken language. Included are strategies for students from early childhood through high school who have a broad range of auditory access, language competencies, and communication characteristics.

RECOMMENDED PROFESSIONAL GUIDELINES FOR SERVICE PROVISION

Roles of Speech-Language Pathologists and Teachers of Children Who Are Deaf and Hard of Hearing in the Development of Communicative and Linguistic Competence, developed by a Joint Committee of the American Speech-Language-Hearing Association and the Council on Education of the Deaf,² provides useful guidelines for speech-language pathologists (SLPs) regarding considerations and skills integral to providing auditory habilitation/rehabilitation services for DHH students. Specific to children who use sign language, these guidelines acknowledge the importance of SLPs having the knowledge and skills to address

the complex interplay of the areas of listening, speaking, signing, reading, writing, and thinking. These guidelines validate the need for SLPs to understand how skill expansion in one of these components enhances performance in another area, ultimately contributing to the overall development of literacy and learning. This document also emphasizes the benefits of the SLP and the teacher of the deaf (TOD) combining their expertise in the development of communicative competence for these children. It recognizes that as the age and abilities of the child change over time, professionals may have to modify their roles, focus, and expectations. As a part of the collaboration between the SLP and the TOD, these guidelines recommend that assessment include a comprehensive description of communicative and linguistic abilities and needs of the child, history of communication modalities and languages (signed and/or spoken) used and/or tried, family preferences, and concerns related to communication. To ensure linguistically appropriate service provision for students who use sign, either American Sign Language (ASL) or as a support to English,³ it is recommended that an SLP who does not demonstrate proficiency in the language/communication system used by the student collaborate with other professionals skilled in ASL or the sign system used by the student.

DEFINING AND UNDERSTANDING SIGN

Establishing a common working definition and understanding of the term *sign language* is necessary prior to addressing the spoken language considerations and strategies associated with the population of DHH children who sign. Webster's *New World College Dictionary*⁴ defines *sign language* as "a system of signs and gestures used as a language." This definition implies that *sign language* is a full language, as is the case with ASL, that is a complete natural visual language with all of the components of

* Based on the 2009–2010 Gallaudet Research Institute's Annual Survey of Deaf and Hard of Hearing Children and Youth.¹ Of the 37,828 students documented from ages 3 through 21, 27.4% receive "sign-only" instruction in school, 12% use simultaneous communication in school, and 23% use sign in the home (http://research.gallaudet.edu/Demographics/2010_National_Summary.pdf).

any language including its own vocabulary and grammar.⁵ Signed representations of English such as Manually Coded English, Conceptually Accurate Signed English, Signing Exact English, or Sign Supported Speech are English-based sign systems employing sign as a support to clarifying English.⁶ These sign systems are not a language. For the purposes of this article, the term *sign* will refer to signing used as a clarification of spoken English. *ASL* will refer to a full visual language. Although it will not be addressed in this article, Cued Speech is a visual system used to clarify English. Cued Speech is a mode of communication that complements lip movements with manual cues. It is based on the phonemes and properties of traditionally spoken languages.⁷

The Role of Sign for Language and Communication

It is important to understand the role of sign for each child served. This will impact the assessments, goals, and strategies incorporated. The following levels of sign use, based on Moeller, 2006⁸ for application to children with cochlear implants, have been modified here to describe the varied levels of sign use observed for the general population of students who are DHH who sign:

- *Foundational use*: Use of sign vocabulary to jumpstart early language development before listening technologies are fitted and the child gains access to spoken language. Sign use is discontinued soon after the technology is fitted with the goal of focusing solely on spoken language.
- *Transitional use*: Use of sign vocabulary as a jumpstart to early language. Sign use continues as a child transitions to proficiency in spoken English. Sign is slowly diminished as the child demonstrates increased proficiency in spoken English.
- *Differentiated (strategic) use*: Use of sign continues beyond the early language development years as a support to spoken English, based on the communication circumstances. Typically an English-based sign system is used in conjunction with spoken English (either simultaneous with spoken English,

sequentially to clarify spoken English, or via an interpreter).

- *Dominant use*: Primary use of a full visual language (e.g., ASL, French Sign Language) for learning and communication. Spoken language skills are addressed and demonstrated in controlled contexts (i.e., communication situations where the context is familiar, highly contextual, and the listening choices are limited).
- *Bimodal-bilingual use*: Includes establishment of language foundations and learning in two modalities (e.g., auditory and visual) and two languages (e.g., ASL and English).^{9,10} ASL and spoken English are developed and used as independent languages^{11,12} based on the individual characteristics and goals of each student. Use of strategies to provide associations and links between the two languages and two modalities is encouraged. (Refer to p. 314 for “Implementing Habilitation/Rehabilitation Practices.”) To maintain the integrity of each language, simultaneous communication is not recommended.

Evidence Supporting Sign Use

When addressing spoken language development for children who sign, it is important to understand how sign can positively impact auditory, speech, and spoken language development. The following benefits of sign use should be shared with both professionals and families:

- Neuroscientific research demonstrates that the brain has the capacity to acquire both a visual and spoken language without detriment to the development of either language through either modality.^{13–15}
- Mounting evidence documents how the development of early visual linguistic competence can then effectively be used to map onto, link to, and facilitate spoken language development.^{16–19}
- A strong body of evidence documents the linguistic advantages of early visual language for DHH children.²⁰
- There is a lack of evidence documenting that visual language inhibits long-range spoken language outcomes.^{21–23}

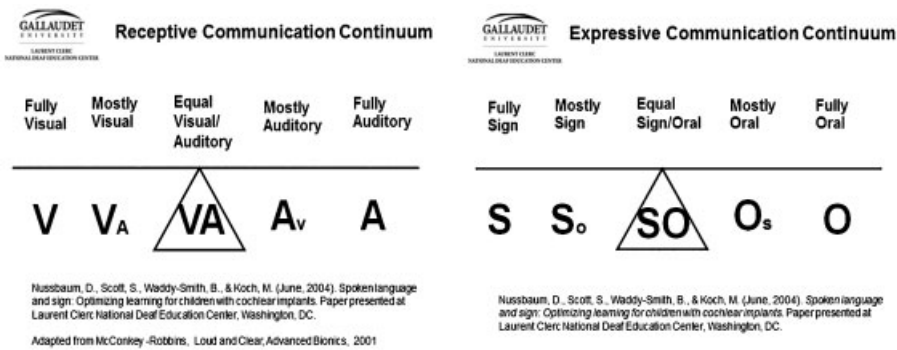


Figure 1 Receptive and expressive continuums used at the Laurent Clerc National Deaf Education Center as a component of the language and communication planning process.

What is equally important to recognize, is that for spoken language to be effectively developed in signing environments, it must be used and valued. Dedicated opportunities to develop and use auditory, speech, and spoken language skills must be an integral part of a student's daily communication interactions or these skills may not develop optimally.

INDIVIDUALIZED PLANNING

For children who sign, it is beneficial to develop and implement a language and communication plan to guide development and use of language in both auditory and visual modalities. A comprehensive language and communication plan should include a student profile summarizing integral background information and a description of a child's spoken and sign competence. It should be based on formal and informal, as well as standardized and nonstandardized assessments of all areas of communicative competence.[†] The profile should also include recommendations for habilitation/rehabilitation service provision as well as how and when to use each language and modality during the day at home and at school.

Spoken language goals and outcomes are determined by many interrelated factors such as

each child's hearing level, the listening technologies used, and linguistic competence in both sign and spoken language. Listening, speech, and spoken language goals should reflect each student's ability to access and express both visual and spoken language. The continuums cited in Figure 1, a receptive continuum for how a child accesses language (ranging from visual only to auditory only) and an expressive continuum for how a child expresses language (ranging from sign only to oral only),²⁴⁻²⁶ can be incorporated into the planning process to document a child's functioning (Fig. 1). Where a student is placed on each continuum can guide decisions impacting spoken language goals and objectives, which sign-inclusive strategies can be used to facilitate spoken language, and how and when to incorporate spoken language into signing environments.

When looking at students on the receptive continuum, some students may be primarily visual learners and develop auditory skills to supplement their language and communication, whereas others may be primarily auditory learners with sign as a supplement to language and communication. Some students may have the linguistic competence to move equally between accessing both visual and spoken language. Expressively, some students use sign with some spoken language to supplement their language and communication, whereas others may express themselves primarily through spoken language with some sign to supplement their language and communication. Other students will have the linguistic competency to express themselves equally via sign or oral

[†] For a discussion of recommended multisensory language assessment tools and considerations, see *Language Learning in Children Who Are Deaf and Hard of Hearing: Multiple Pathways*,²⁷ *Starting with Assessment: A Developmental Approach to Deaf Children's Literacy*,²⁸ and *Authentic Assessment for English Language Learners: Practical Approaches for Teachers*.²⁹

communication. As goals are determined and a language and communication plan is developed it is important to be aware of the following:

- Movement along each continuum will vary for each student. Functioning in receptive spoken language may possibly differ from functioning in expressive spoken language.
- Habilitation/rehabilitation goals and strategies should reflect a student's current functioning with the aim of facilitating movement along both continuums.
- Functioning on the continuums may differ in varied settings (e.g., social setting, large classroom, small group, or one-on-one communication) as well as with varied communication partners (e.g., individual using ASL, individual using spoken English; Fig. 1).

IMPLEMENTING HABILITATION/REHABILITATION PRACTICES

The following practices recommended for auditory habilitation/rehabilitation for all children who are DHH should also be included in service provision for the population of children who use sign. These practices include:

- Appropriate fitting and monitoring of hearing aids/cochlear implants/assistive listening systems;
- Establishing goals in the areas of listening, speechreading, and speech production³⁰⁻³²;
- Establishing a positive acoustic environment³³;
- Positioning the child to enhance spoken language communication³⁴ (e.g., flexible seating near speaker, clear view of speaker's face);
- Managing the content or presentation of a listening task to increase or decrease its challenge (e.g., acoustic highlighting of key elements, changing the set size of listening choices, repetition, monitoring the familiarity of the content).³⁴

For children who sign, additional techniques and strategies that can be included are:

- *Guidance in making the link between sign and spoken language.* Two strategies that may be

used to guide children in making associations between sign and spoken language include "sandwiching" and "chaining." Sandwiching; saying it-signing it-saying it, or the reverse signing it-saying it-signing, it is a technique that provides the student an opportunity to see the direct link between a signed word or concept and its spoken correlate. Chaining (signing it-saying it, fingerspelling it using picture support) is another linking technique that is additive. Chaining provides the child multiple channels of receiving the same word or concept (e.g., the child sees the object of a *ball*, sees the sign for *ball*, hears the spoken word for *ball*, sees the fingerspelling of *ball*, sees the printed word for *ball*). Not all components of the chain need to be included each time this technique is used.

Signing can also be used to assist a child in clarifying and learning auditory concepts. For example, if a child understands the signs/concepts for *loud* and *quiet*, these signs/concepts can then guide the child in making associations with similar concepts related to sounds in the environment. It is also helpful to provide students with an explicit association between ASL and spoken English (i.e., explaining to the student, "this is how it is expressed in ASL; this is how it is spoken or written in English").

- *Spoken language immersion.* This is a time or activity with a focus on the use of spoken language to learn and communicate. During these times, traditional auditory/oral strategies without accompanying sign use are incorporated to facilitate learning. Opportunities can be identified during the child's daily schedule to provide spoken language immersion. For example, spoken English immersion could occur during daily snack time when the context is familiar or during a language arts activity when the content information has previously been introduced. During immersion, it is critical that the adults communicating with the student be familiar with his or her spoken language skill levels so communication situations can be modified to make spoken language accessible.

- *Classroom integration.* This is a dedicated time when habilitation/rehabilitation goals can be addressed within the classroom setting. In addition to pullout sessions, this is an opportunity for SLPs to target Individualized Family Service Plan (IFSP)/Individualized Education Program (IEP) objectives using existing classroom materials and activities. The goal of integration is to develop skills as opposed to immersion, which is to utilize a student's existing skills.
- *Grouping students who are DHH based on auditory access/functioning levels.* Students in one class may demonstrate varied abilities to access and use spoken language for learning. It is therefore necessary to identify activities (e.g., read-aloud stories, a social studies lesson, or a music sing-along) where students with similar spoken language abilities can be grouped together to focus the level of spoken language specific to the abilities of the students in the group. Auditory learners who are DHH may be grouped together for activities facilitated through complex, connected spoken language. When possible, provide opportunities for these students to be paired with hearing peers to provide increased challenges in using spoken language. Emerging spoken language users can be grouped for activities incorporating increased structure and use of linking strategies to promote access to the spoken language tasks.
- *Listening/speech/spoken language centers.* These provide a designated place in the classroom for students to focus on their individual auditory/speech/spoken language goals. Activities may be designed for students to work directly with the SLP, independently, or with the support of classroom staff. SLPs may be actively involved with the classroom teacher in designing the center to include the equipment and materials to match each child's goals. The centers may be designed to include a variety of computer software programs to facilitate listening, speech, and spoken language development, audiobooks (see "Focusing on Literacy"), music videos with captions, and other activities designed specific to a child's spoken language goals. The child's schedule should include identified times for

the child to attend the center to address their IFSP/IEP goals.

- *Oral "read-aloud" time.* Read-aloud time provides a dedicated opportunity for students to listen to stories/books. For students who have the ability to access new information via listening, new books/stories may be presented to them through spoken English. For students with emerging spoken English skills, a plan may be developed to introduce the story in ASL and then make connections to spoken English using various linking strategies (see earlier).

FOCUSING ON LITERACY

One of the major challenges of education is the development of literacy. The National Reading Panel³⁵ reports that among the deficits found in poor readers are phonological awareness, phonological memory, phonological retrieval, and phonological production. These deficits in reading skills seen in the general population of poor readers are also manifested in students who are DHH. Our experience indicates that students who are DHH who struggle with reading often exhibit similar difficulties as their hearing peers who are struggling readers. Both groups demonstrate difficulty with sequential memory for letters in words, recognizing words in print, spelling words, and reading on grade level. To address these deficits, multisensory language strategies can be beneficial in promoting skill development in decoding, encoding, and comprehending print. Recommended components to include in literacy instruction are:

- Word study: teaching of phonemic awareness, phonics, syllables, morphology, spelling, and semantics;
- Development of word knowledge: providing students opportunities to have language experiences to support their interaction with print;
- Development of English grammatical structures: explicit teaching of structures that hearing students typically bring to the reading process via their language listening experiences (these missing structures are not a component of ASL or may be inaccessible via the child's listening system);

- Opportunities to associate ASL to print: strategies that allow students to connect ASL and written English to support literacy learning.

Through a review of best practices in reading and writing, the Clerc Center has identified nine practices that create a comprehensive approach to literacy learning. *Literacy—It All Connects* practices include dialogue journals, shared reading and writing, other journals and logs, independent reading, guided reading and writing, reading to children, language experience, writers' workshop, and research reading and writing.³⁶

Adapting Commercially Available Literacy Programs

The following literacy resources may be used as developed or adapted for use when working with children who sign. These resources include:

1. *Fairview Learning* (<http://www.fairview-learning.com/>) is a reading program designed specifically for students who are DHH. The program provides literacy tools to guide students in making connections between ASL and English. The components of the program include (1) adapted Dolch words, (2) The Bridging Process and Reading Comprehension, (3) Phonemic Awareness, (4) Literature Based Instruction, and (5) ASL and Spontaneous Written English. Within this program, the Dolch word lists are lists of common sight words that occur frequently in text. The adapted Dolch word lists address the multiple meanings of words; demonstrating how the context in which the word is used determines the sign production (e.g., *play* outside or attend a *play*). The Bridge Lists emphasize English phrases that are signed based on the concept being conveyed (e.g., a person falling, a house falling, a tree falling, etc.).
2. *See the Sound—Visual Phonics* (<http://see-the-sound.org/>) was developed in 1982 by the International Communication Learning Institute (ICLI). Use of this system

requires training provided by specialists certified by the ICLI. This program uses a multisensory approach incorporating tactile, kinesthetic, visual, and auditory feedback to improve reading, writing, and speech skills in deaf students and other children and adults who do not learn readily from traditional reading approaches. Visual Phonics can be used to improve reading through the development of phonological awareness skills, writing through the development of spelling skills, and speech through the development of articulation/mouth movements. Visual Phonics is a system of 45 hand cues that represent the 45 sounds in spoken English and written symbols that help students make the connection between written and spoken language. Each hand cue is suggestive of how a sound is made. Each sound has a written symbol and each written symbol is a visual representation of the hand shape and represents the same sound regardless of the spelling. The hand shapes and symbols help students make sense of the various spellings and reinforce the sound-symbol connection.³⁷

Some Visual Phonics activities to incorporate into traditional phonologic awareness activities are:³⁷

- *Rhyming words and homophones*—When introducing rhyming words or homophones, present the words using Visual Phonics hand cues and the written Visual Phonics symbols. With the hand cues and written symbols, deaf students can see the similarity in how the words look in the same way that hearing students hear the similarity in the words.
- *Phoneme counting*—Ask students to count phonemes by using the Visual Phonics hand cues and written symbols to allow them to see how many phonemes are in a given word; the number of sounds may differ from the number of letters (i.e., coat has three sounds but four letters).
- *Oddity task*—When discriminating the beginning, ending, and medial sounds in words, use the Visual Phonics hand cues and written symbols to permit deaf

- students to see which words begin or end with the same or different sounds and to identify the specific sounds.
- *Sequencing and segmenting sounds*—Present sounds in words via Visual Phonics hand cues or written symbols to provide visual feedback and enhance the student's ability to sequence/segment the sounds in words.
3. *Visualizing and Verbalizing* (<http://www.lindamoodbell.com>) instructs students to create visual images for oral and written language. Deaf students who can read text but have difficulty recalling, retelling, and answering questions related to what they have read may benefit from instruction on how to create mental imagery or movies in their minds as they read.³⁸
 4. *Story Grammar Marker* (<http://www.mindwingconcepts.com>) is a tool that can be used with students to develop telling, retelling, writing, and comprehending stories by learning the structure of a story.³⁹ Story Grammar Marker uses visually appealing icons to represent elements in a story in the form of a concrete bookmark or graphic organizer.
 5. *ThemeMaker* (<http://www.mindwingconcepts.com>) is a program to help students comprehend and write nonfiction/informational material as well as narratives. ThemeMaker focuses on expository text structures such as description, listing, sequencing, cause and effect, problem and solution, compare and contrast, and persuasion.⁴⁰ These are areas typically challenging for students who are deaf.
 6. *Reading A to Z* (<http://www.readinga-z.com>) is a Web-based program that has thousands of downloadable books that range from emerging reading levels to fifth grade. It includes printable/projectable books in addition to lesson plans, instructional materials, and evaluation tools. Reading A to Z has multilevel books that provide three different reading levels of the same book title. With this program, students can choose books based on their interests and reading levels.
 7. *Hi-Lo books (high interest, low/easy reading level; www.sdlback.com)* can be used with students who are reading significantly below grade level. The subject matter for Hi-Lo books is geared toward high school students' interests while making them accessible to students reading at beginning levels. A resource for locating Hi-Lo books can be found at Saddleback Educational Publishing.
 8. *Word prediction programs* can be used with many standard writing software programs. A list of word prediction programs in a comparison chart can be found at <http://www.spectronicsinoz.com/article/word-prediction-software-comparison-chart>. These programs help students choose words to incorporate in their writing process through a displayed list of correctly spelled words from which a student can choose. It is beneficial to choose a program that has a text to speech component for students to access learning through audition. These programs are highly motivating to students, can positively impact written output, and provide a link from spoken language to print.
 9. *iPads* provide opportunities to engage students as listeners, readers, and writers. The iPad and companion Web sites provide audio support for textbooks, electronic talking dictionaries, and word prediction programs. Students can also access music paired with the written lyrics via the iPad. A Music Link telecoil (T-coil) silhouette can facilitate access to iPad and other audio devices with a standard 3.5-mm headphone socket used for iPads, Kindle Fires, iPhones, and MP3 players or iPods (http://www.teccar.com/Music_Link.htm). For students using personal FM systems, most manufacturers provide Bluetooth or hardwired audio connectivity options.
 10. *Audiobooks* are beneficial for students with auditory access sufficient to understand recorded connected spoken language. There are numerous audiobooks (<http://www.audible.com/>) that are paired with written text (either the printed version of the same book or the e-book). Using audiobooks with accompanying written text helps students focus on reading material as well as increase

their comprehension and listening skills. The audiobooks used in conjunction with an e-book or printed version of a book give students access to reading material that is above their independent reading level.⁴¹ In small groups, audiobooks and accompanying text can be projected onto a screen. Students who benefit from this technology should have the accommodation added to their IEP. For a list of audiobook resources see Wolfson, 2008.⁴¹ For an annotated bibliography of research and resources on audiobooks see “Research & Articles on the Benefits of Audiobooks for Young People” at www.audiopub.org.

CONSIDERATIONS AND STRATEGIES SPECIFIC TO ADOLESCENTS

There are unique auditory, speech, and spoken language habilitation/rehabilitation considerations for SLPs working with adolescents in signing environments. Jackson and Cooper^{42(p246)} state that “the most important factor involved in motivating adolescent students to learn is engagement.” To keep students motivated and engaged, it is important to incorporate activities that are authentic and relevant as well as of interest to the student, along with activities that align with content standards and the curriculum. It is highly beneficial to use strategies that promote a student’s positive feelings about themselves and perceptions of their ability to successfully accomplish a task.⁴³ Motivation is facilitated by engaging students in activities that are relevant to their lives and relate to their interests and goals. Students from various cultural backgrounds and with varying abilities (auditory access, language/communication, and cognitive) benefit from culturally responsive differentiated instruction⁴⁴ with tasks designed to be personal, include student choice, and promote ownership of their work.^{43,44} Some considerations and strategies to consider for adolescents include:

- *Use an inventory* to identify activities of interest to students to integrate into students’ speech and language services. Incorporating materials of interest to students

allows them to develop a sense of ownership; students have positive attitudes and demonstrate pride in their own work.⁴⁴

- *Incorporation of authentic activities* relevant to students’ everyday lives plays a critical role in students’ engagement.⁴⁵ For example, cooking activities may provide an opportunity to develop listening/speechreading skills as well as literacy—students can discriminate between a list of ingredients and follow directions by listening, speechreading, and/or reading the directions. Comparing movies with books is another authentic, highly motivating and engaging activity for adolescents. Students develop their ability to create images by comparing the visual imagery created by the language in the book with the images presented in the movie. Students also develop critical thinking skills by analyzing literary elements of the book that are then compared with the movie.
- *Use captioning* to provide an opportunity for students to focus on developing vocabulary and figurative language in relevant or meaningful contexts. “Reading captions on TV is a special skill—one that does not automatically develop.”^{46(p136)} Via captioning, students learn to use word identification strategies for reading/learning new vocabulary. Students can be shown the connections between new words and signs⁴⁶ while simultaneously being exposed to the connection between speech and print or the pronunciation of new vocabulary.

Habilitation services for high school students may be provided in therapy sessions or integrated within English language arts class. By integrating services in the classroom, emphasis is given to aligning services with the core curriculum. Collaboration between the SLP and teachers benefits student learning and is necessary for integration of services into the classroom. Integration provides the opportunity for teachers to observe instructional practices, approaches, and methods that can be used in the classroom. The SLP and teacher can also collaborate in the selection of materials to match the language/literacy levels, interests,

and cultural and linguistic background of students.

The role of the SLP can go beyond facilitation of spoken language and address skills integral to literacy development. Services can include goals such as phonological awareness, semantic relationships (determining the meaning of unknown words, words with multiple meanings), and figurative language, as well as increasing reading comprehension. SLPs may also address the writing process, with an emphasis on developing conventions of standard English including capitalization, organization, punctuation and spelling.⁴⁷

Although some students in high school may receive services that are integrated into English classes, other students may receive small group and individual services outside of the classroom. If pullout therapy sessions are scheduled, it is important to be considerate of scheduling sessions that will least conflict with a student's academic courses, tests, or project deadlines. Again, teacher-student-SLP collaboration is critical in making sure that services complement the student's interests as well as academic coursework.

SUMMARY

Habilitation/rehabilitation practices for students who are DHH and sign are in many ways unique compared to students who are DHH and do not sign. We have provided practical considerations, strategies, and resources that SLPs can incorporate into their practices when working with these students. Specific considerations, activities, and materials for use with adolescents have also been included. As there are limited dedicated resources guiding SLPs in understanding how to capitalize on the interplay between sign and spoken language, it is imperative that professionals working with this population communicate and build a shared body of knowledge regarding successful strategies and approaches.

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Students who lose their hearing before developing speech may not use speech at all, communicating solely with sign language. However, as with all other types of disability, no two students are alike. In fact, many families of children who are deaf or hard of hearing want their children to have a school experience with other students like them, rather than be included in a regular school where they might be the lone student with hearing disabilities. In addition to school-year programs, students with hearing disabilities may participate in summer-school programs. Your school may have a sign-language interpreter available to assist students with hearing disabilities. Some schools and school districts assign an interpreter to each student with a hearing disability. In other words, sign language and spoken language should not be considered as mutually exclusive alternatives, but as potentially complementary strategies for encouraging language development in deaf children. Studies conducted by Christie Yoshinaga-Itano , and others, further suggest that there is a critical period for language development in the first years of life, and a longer critical period for speech development through the preschool years. Language learning in children who are deaf and hard of hearing: Multiple pathways. Boston: Allyn and Bacon. Staff development in ASL/English bilingual instruction for deaf students: Evaluation and impact study. Center for ASL/English Bilingual Education and Research: New Mexico School for the Deaf.

