

Engaging Deaf and Hard of Hearing Students in the School Library:

A Handbook for Teacher-Librarians

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Abstract

Over seventy percent of students who are deaf or hard of hearing will attend a public school and enroll in a classroom with their hearing peers or in a self-contained classroom with other deaf and hard of hearing students. Teacher-librarians who work in these schools can improve their instruction by understanding not only what it means to be deaf or hard of hearing but also how deaf and hard of hearing students learn to read and what challenges they may encounter in the school library classroom. This paper offers practical suggestions and recommendations to help teacher librarians teach within the concept of Universal Design for Learning to make learning accessible for all students, but specifically for students who are deaf and hard of hearing.

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Introduction

*I stood up in my kindergarten class and began to read from the book, *Ballerina Bess*, by Dorothy Jane Mills. My teacher looked at me with surprise. She grabbed my hand and ran down the hall with me to read for another teacher. Forty years later I am just now realizing why she found my being the first in the class to read so astounding.*

Nadene Eisner

My first remembered experience with school or public libraries was when my family moved from Baltimore to a suburb of Philadelphia just as I was entering third grade. That was when we became regular visitors to our public library. I was already an avid reader, often reading late into the night with a flashlight under my covers until my dad ordered me to sleep. During one library visit a few years later my mom handed me a picture book about a little girl who was deaf called, *I Have a Sister, My Sister is Deaf*, by Jeanne Whitehouse (1977). I was almost twelve years old and my mom knew I needed a story with characters like me. But the story focused on what the young deaf girl presumably couldn't do, "She will never be able to sing" (p. 3) rather than her many potential abilities. At twelve I was preparing to chant in Hebrew for my Bat Mitzvah. The little girl in the story could only run, jump, and play. Unfortunately this was the best book with a deaf character the librarians could find through Interlibrary Loan in 1977.

I am deaf. Audiologically speaking, I have a moderately-severe-to-profound hearing loss in both ears. I became deaf when I was three years old due to meningitis. I wore (continue to wear) hearing aids and benefitted from them, but I still had huge gaps in what I heard. Because my speech sounded close to a hearing person's I was often treated--at home, socially, and at school -- as though I was just a little hard of hearing. I had no accommodations in the classroom. I was not taught sign language or provided an oral interpreter (individuals who sat in front of the deaf student and mouthed clearly what was said) and I was not provided with note takers until much later in high school. I did not receive any in-class or pull-out support to help me understand new classroom information.

A hearing itinerant visited my school once a week to work with me on supplemental learning.

With everything I did not have I at least had books. I loved to read and reading was my escape from all my language frustrations. I participated in summer reading programs at the library only to the extent of reading books. If I attended programs I did not understand very much. The librarians knew me because I had excellent expressive skills and would talk to them. If I asked about a book I usually did not hear their full responses and instead they would guide me to a book's location.

After college I did some "soul searching" and eventually chose librarianship for my career. In retrospect this was a naïve choice. Unemployed after earning a degree in English with an emphasis on writing – not literature -- I decided to earn an MLS in general librarianship and work in a "nice quiet" specialized library. I did not realize how much communication would be required – on the phone (this was before email became commonplace) and in person. I overcame challenges in my early positions as an inexperienced and unmentored children's public librarian. If I did not understand a patron, I asked him to write down his question. Some of the staff in the libraries I worked in resented my inability to hear on the phone because it meant extra work for them.

I left the public library after three years. During that time, encouraged by a late-deafened librarian with connections in the library system, I began learning sign language and benefitted from having sign language interpreters at meetings and workshops. After leaving the library system, I worked for a social service agency that supported lower income people who were deaf and hard of hearing. My colleagues were both hearing and deaf professionals and we worked together to provide support and guidance to deaf individuals who had had fewer opportunities for success and sometimes were living with mental illness. I couldn't stay away from libraries, though, and worked for a year and a half in a Judaic library, remaining out of sight by supporting the cataloging department.

I took time off to raise a family and began taking my own children to library story times. It was through observing other children's services librarians that I learned how

story times should look. I did not hear very much during the programs but what was important to me was exposing my hearing children to language in a social setting. When I asked a deaf friend to join us with her deaf children, I gained insight into how frustrating public libraries could be to parents with deaf children. In order for my friend to attend she would have to call the library at least two weeks in advance to arrange for a sign language interpreter. As any parent knows, two weeks is a long time when you have young children, and in two weeks your child might be sick, in the midst of a tantrum, or sleeping just when you need to leave for the scheduled story time. It was much easier not to attend. But by not attending, the children missed out on important language and social developments. This experience in the early 2000s, ten years after the passage of the Americans with Disabilities Act in 1990, showed we still had a long way to go in making libraries accessible for deaf and hard of hearing customers.

Traditionally, libraries and other social organizations have ignored the deaf community. (Hagemeyer, 1992)

Deafness is an invisible disability. If I walk into a room I can pretend to join a conversation by smiling when others smile and nodding my head when others do the same. Not until you turn to me and ask me a question will you realize something is “off.” It is quite challenging for a deaf person to enter a conversation after it has begun. I depend on context to fill in the blanks of what I miss, and if I have no idea what started the discussion in the first place, I am going to spend most of my time looking from person to person, trying to recognize words on the speaker’s lips and connect this to possible topics. You will notice my gaze but you will not think I am deaf right away. You might think I am slow, ditzzy, uninterested, unenlightened, or uneducated. The fact that I am deaf and simply need to be caught up on the conversation will be farthest from your mind. This is why I avoid the many social and educational programs offered by public libraries.

Alice Hagemeyer, one of the earliest deaf librarians who worked for the deaf community in Maryland, wrote in 1992 that library policy makers regularly ignore the needs of deaf and hard of hearing individuals when planning and budgeting for a library.

She used the phrase, “out of sight, out of mind,” to describe most organizations and individuals understanding of deafness. Even if I am sitting in the room with you, you cannot “see” my deafness. You might catch a glimpse of my hearing aids (or for others, their cochlear implants) but you cannot see that we cannot hear. You will assume the amplification is doing its job and we are just like hearing people.

But we are not. Even today, children who receive cochlear implants in their first year of life and excel in school will never be hearing. Deafness is not an illness and cannot be cured or corrected. For many, but not all of us, glasses may correct our eyesight to near 20/20 vision. Hearing aids and cochlear implants cannot do the same for hearing. Helen Keller wrote regarding her life as a deaf-blind individual that it was much more isolating to be deaf than blind (Harrington, 2000). You have more chance of locating the blind person in the room than the deaf person, and you have more chance of engaging the blind person in lively conversation without making any changes in the way you communicate than you would a deaf or hard of hearing person.

In spite of these obstacles, there are many successful deaf and hard of hearing adults throughout the world. They have become educators, doctors, lawyers, programmers, engineers, entertainers, and authors. I am one of them. Somehow, without any classroom support, I made it through primary, secondary, and higher education, though I almost failed junior high school and encountered significant bullying – from teachers and students -- along the way. My desire to succeed, my natural inclination as an auditory learner attuned to words and languages, made learning to read easier for me. I depended on what I could see to make up for what I could not hear. When I attended graduate school the second time in 2007 to earn my school library certification, I asked for and accepted every accommodation I thought I might need. The difference for me was day and night. My ability to join in discussions, my motivation, and the coursework I produced, reflected the support I received in the form of sign language interpreters, captioners, and instructors who understood that my classmates and I were an eclectic mix of individuals who brought with us to our classrooms a range of cultures, knowledge, abilities, and needs.

But many other deaf and hard of hearing students are not part of this success group. Many students have other disabilities in addition to hearing loss that make learning challenging. Others are growing up in bilingual households where the parents cannot speak English and have not learned sign language. Many students do not have access to books or libraries, neither in schools nor in homes. These students are the ones who need understanding educators and teacher-librarians. They need the same access – or more – to the school library than their hearing peers.

Why do so many deaf and hard of hearing students struggle with language?

Over the last 90 years research and studies examining how deaf and hard of hearing students learn to read and which practices work best continue to show the “average” deaf or hard of hearing student graduates high school with a fourth grade reading level (Kyle and Harris, 2011). Even though research has shown us that when provided with an environment rich in language and with supportive teachers deaf and hard of hearing children do achieve literacy success (Marschark, 2011), students are still graduating with lower than average reading scores. The problem, wrote Marschark (2011), is not that deaf and hard of hearing children are unable to learn but that *educators are not recognizing and teaching to their students’ unique learning styles.*

Purpose of this guide

You may wonder how the language needs of deaf and hard of hearing students impacts you as a teacher-librarian. You may have a background in teaching or special education but not specifically deaf education. You may not know sign language. At this time in your career you may not have a deaf student in your classroom. But you may have a hard-of-hearing student. Remember, deafness is an invisible disability, and some students who are hard of hearing may choose not to tell. Some may not even know they have a hearing loss.

The needs of deaf and hard of hearing students impact you because, whether you are doing a book talk, helping students find good-fit books, reading a story, or teaching

research or a technology lesson, the learning needs of the students in your classroom become your responsibility. All students in your class need equal access to learning. Meeting this goal requires thought and planning. Differentiation is key. To adapt learning for various styles requires more original lessons, which may require investing more time in preparation to teach. You may have to teach slowly for some students while allowing other students to move ahead or you may have to take time to provide one-on-one support. These ideas may sound daunting when some of you are teaching within fixed schedules and high student enrollments, but later I will touch on Universal Design for Learning, which will show you that when you modify or adapt a lesson to benefit one learner, the change often benefits all learners.

This manual is designed to guide you through an understanding of deaf and hard of hearing students who may be in your school library classroom -- now or in the future -- and provide suggestions for designing your library – lessons, instruction, and style -- as well as your physical library space to best meet the needs of this learning population.

1 Understanding Deaf and Hard of Hearing Students

“From the time I entered school, I had a serious problem. The worst part was that I was the only child in school with such a problem, and the adults around me did not know how to help me. No one knew what to do with this solitary young girl, the only one in the school with a hearing loss”.

Gina A. Oliva, *Alone in the mainstream: A deaf woman remembers public school*

Who are they?

What is the likelihood you will teach deaf and hard of hearing students in your school? Determining the number of deaf and hard of hearing students in the country is difficult. Many students aren't reported, and because some students have multiple disabilities, they may be reported under a disability other than hearing loss. States like Wisconsin keep accurate records of the deaf and hard of hearing population, but for many states the number is just a generalized estimate.

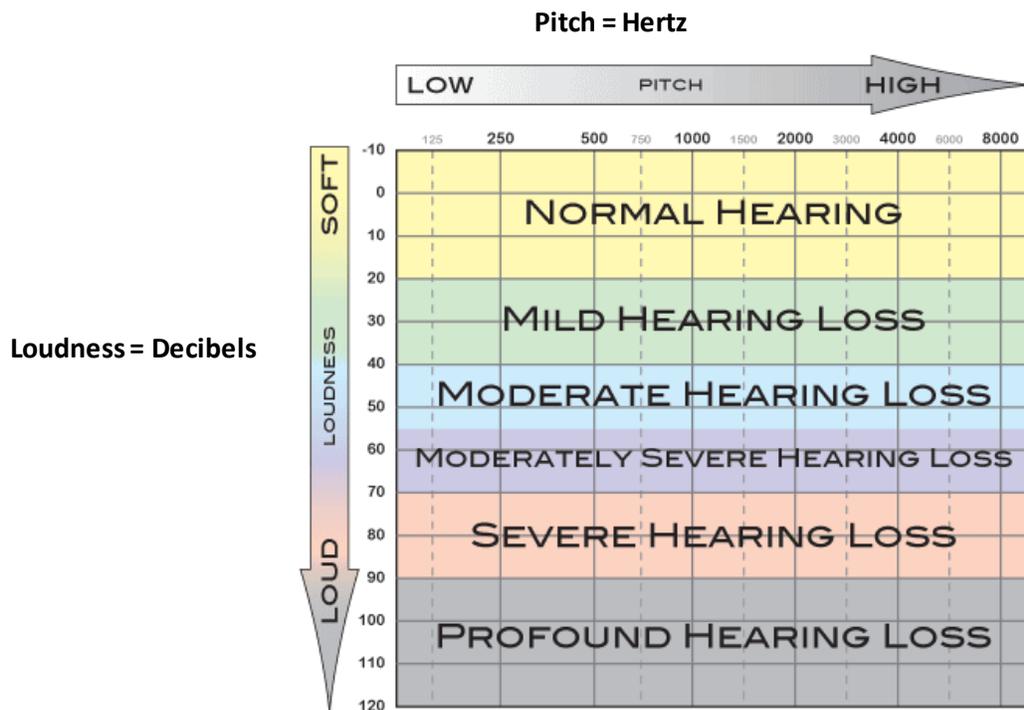
Of the almost 38,000 deaf and hard of hearing students reported in the 2009-2010 Gallaudet Research Institute's Annual Survey of Deaf and Hard of Hearing Children and Youth, almost 60 percent attended a regular school with hearing students and another 17 percent attended self-contained classrooms in the regular education setting. Therefore, the least restrictive environment for 77 percent of deaf and hard of hearing students was a hearing school where they would interact with hearing teachers and students. Chances are you currently have at least one student in your school with a hearing loss.

Causes and Severity of Hearing Loss

There are many causes of hearing loss. Holt, Hotto, and Cole (1994) compiled “Demographic Aspects of Students who are Deaf or Hard of Hearing” using data from Gallaudet University's Annual Survey of Deaf and Hard of Hearing Children and Youth (1996-1997). About 30 percent of the responses for deaf and hard of hearing students in Illinois attributed hearing loss to heredity. The other 70 percent was attributed to a mix of illnesses, ear infections, prematurity, and birth trauma, with meningitis being the leading cause of hearing loss.

Although some individuals may tell you they have a “70 percent loss in one ear,” hearing loss is not measured in percentages but in decibels, which are units of loudness, and hertz, which is the pitch. Figure 1 will help you understand how decibels determine the severity of hearing loss. The louder a particular pitch needs to be in order to be heard, the more severe the hearing loss is for that pitch:

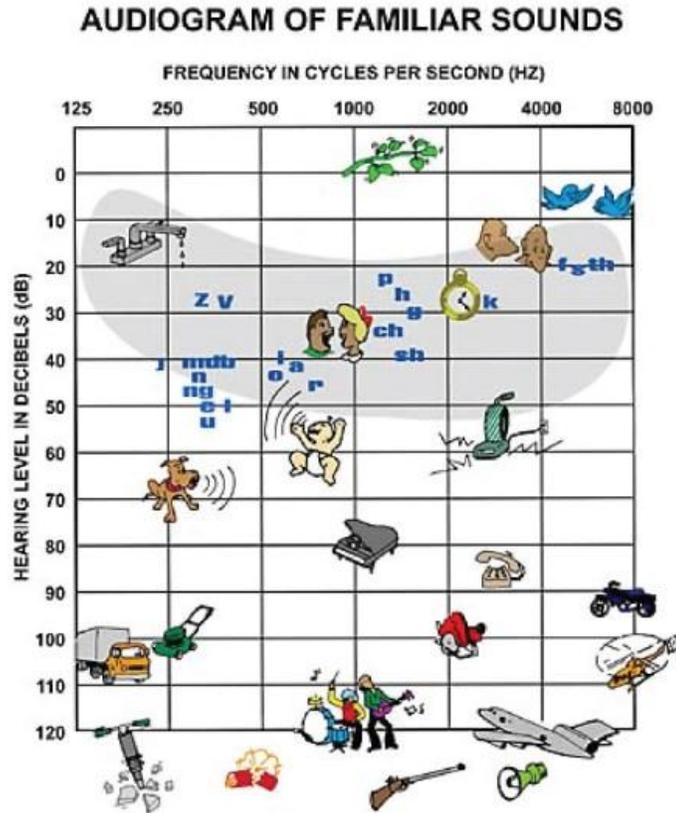
Figure 1: Hearing loss levels



http://www.pedsent.com/problems/aud_audiogram.htm

Figure 2 will help you see on the audiogram different sounds that can be heard at different decibels:

Figure 2: Audiogram of familiar sounds



<http://uknewbornhearing.yolasite.com/resources/Audiogram.Familiar.Sounds.jpg.opt475x564o0,0s475x564.jpg>
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Figure 2 above helps illustrate that a student with just a mild hearing loss will still miss crucial speech sounds without proper amplification.

Hearing loss and language acquisition

“Children with hearing loss who begin early intervention earlier have significantly better developmental outcomes than similar children who begin intervention later.”

Facts about Pediatric Hearing Loss, American Speech-Language-Hearing Association

The degree of hearing loss impacts a child’s ability to learn language; however, two children with the same hearing levels may achieve literary fluency at different ages and with varying levels of success. How a deaf or hard of hearing child learns to read and communicate depends on many factors:

- Child’s innate learning abilities
- Age at which the loss occurred
- Age of child when loss was discovered
- Age at which intervention began
- Degree of hearing loss: mild to profound
- Use of cochlear implants or hearing aids
- Other disabilities
- Parents’ ethnicity
- Financial and educational backgrounds of the parents
- Parents’ hearing: hearing, deaf or hard of hearing
- Parents’ language, if different from the child’s
- Mode or modes of communication used in the child’s home
- Child’s chosen method of communication
- Child’s preferred learning style
- Type of school: mainstreamed without support, inclusive, self-contained, school for the deaf

Whether or not the child’s parents are also deaf and hard of hearing has been shown to have a direct impact on language acquisition (Marschark, 1993) but not on reading levels (Marschark, 2009). Most literature refers to the 90 percent/10 percent figure in reference

to deaf and hard of hearing children born to hearing parents. This means that 90 percent of deaf or hard of hearing children (whether they are born with a hearing loss or it is acquired later in life) are born into hearing families. Oftentimes this is the family's first exposure to deafness and the parents aren't prepared or provided with appropriate resources to help them navigate the early and critical years of communication at home. The result is that the deaf or hard of hearing child must struggle to become literate in a home that may not provide opportunities for exposure to a rich visual language. But for the smaller percentage of deaf children who are born to deaf parents, research exploring reading strategies used with deaf children who have educated deaf parents has shown that early access to literature and language can lead to successful literacy (Bailes, et al., 2009).

Cochlear Implants

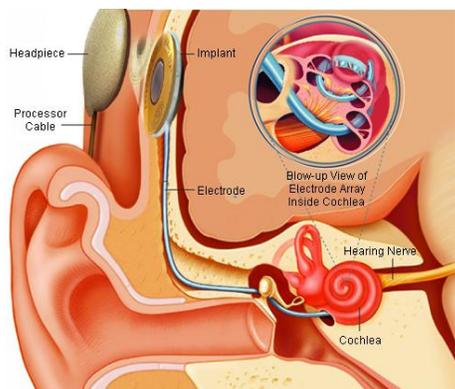
"Misconception #1: When you get hearing aids or a cochlear implant processor(s) you are "fixed" and can hear normally. While my daughter and I are now deaf after our bilateral cochlear implant surgeries, we test and function as if we have a mild hearing loss when we wear our processors. Mild is a far cry from completely deaf, but it means that we still have difficulties hearing in some situations. The same goes for many people who use hearing aids. Devices can certainly improve your hearing, but they do not make your hearing as good as new."

Paula Rosenthal, J.D. is married and has three children. Paula, her husband and daughter all have hearing loss. A law school graduate, Paula has published HearingExchange.com, an online blog and resource site for people with hearing loss, their families and professionals since 2000. She is also a syndicated writer and a public speaker on hearing loss, parenting and related issues. She and her daughter were featured on Back to the Hearing World, an informational DVD directed by Academy Award nominee® Josh Aronson, for Cochlear Americas. To contact Paula, send an email to her at hearingexchange@gmail.com. © 2009 Paula Rosenthal and Taylor Rose, Inc. All rights reserved.

Parents whose children are profoundly deaf may be encouraged to pursue cochlear implants. A cochlear implant is a small electronic device worn both inside and outside the ear (Figure 3). It consists of an electrode array surgically inserted in the ear, a magnetic receiver -- also in the ear -- a transmitter, worn outside the ear and attached to the receiver, and a speech processor, usually in the shape of a behind-the-ear hearing aid (Figure 4). A cochlear implant is not a hearing aid, which is merely an electronic device that amplifies sound. Cochlear implants bypass the damaged parts of the ear and send speech signals directly to the brain through the auditory nerve (NIDCD, 2011). Cochlear implants, which

the FDA approved for use in the 1980s (FDA, 2010) aren't bionic ears that allow the user to hear sound from miles away but they are bionic devices and they are changing the way students learn. In 1995 the Gallaudet Research Institute surveyed about 1,000 students with cochlear implants (GRI, 1997). In 2009-2010 more than 5,500 students were reported as having cochlear implants (GRI, 2010).

Figure 3: Cochlear implant inside and outside ear



Reprinted with permission from Advanced Bionics, LLC (2011)
http://www.advancedbionics.com/com/en/your_journey.html

Figure 4: Cochlear implant outside ear



Reprinted with permission from Boys Town Hospital (2012)
<http://www.boystownhospital.org/patientservices/pages/cochlearimplantcenter.aspx>

It is estimated that over 46,000 adults and 28,000 children have received cochlear implants (NIDCD, 2010). The success of the implant depends upon many factors and some recipients use their implants more successfully than others, making it difficult to develop a teaching style that works for all students who use cochlear implants (Nussbaum, 2009).

While you may meet students with cochlear implants who are performing in school at the same level or higher than their hearing peers without any support these students are still the exception, not the rule. Do not assume that once the hearing issue is “resolved” – through hearing aids or cochlear implants – all deaf and hard of hearing students will learn the same as hearing students (Marschak 2010). Deafness is never “resolved.” Children may perform well in the audiologist’s sound booth and in clinical settings using their cochlear implants and hearing aids but the school environment is not a quiet clinic and the results cannot translate to a classroom with minimal support. Some educated adults who

lost their hearing later in life and received cochlear implants soon after, report that while the cochlear implant enables them to have conversations and use the telephone they have to do so in quiet environments. Noisy establishments are still challenging, even with an implant (Portis, 2007).

Teachers also err in assuming that the clearer a student speaks the better she must be able to comprehend everything in class and she is therefore able to learn at the same pace as her peers. Having excellent speech and reading abilities isn't the same as understanding language, whether spoken or in print. Researchers found that while students with cochlear implants do learn to read better than peers without implants, as a group they are still reading below their hearing peers (Geers, et al. as cited in Marschark, 2009). One exception to ease in acquiring reading skills has been students with cochlear implants who use both spoken and signed language at school. Studies of this group have shown they read at the same level as their hearing peers through high school (Spencer, et al. 2004 as cited in Marschark, et al. 2009).

Hard of Hearing Students

“There is a tendency for people to underestimate the needs of children with mild or moderate hearing loss. Because they may speak clearly, subtle language and learning delays go unnoticed,”

Mary Pat Moeller, Ph.D., Director of the Center for Childhood Deafness at Boys Town National Research Hospital, *New Study of Mild to Moderate Hearing Loss*

It is a mistake to assume that students who are just “a little hard of hearing” will be more successful in learning. In fact, students with mild to moderately severe hearing losses may be at more risk for academic challenges than their peers who are profoundly deaf. Many hard-of-hearing students use speech to communicate and often are perceived to have more in common with their hearing peers. There is a mistaken belief that they can function better and with less support than their deaf peers. (Antia, et al., 2009) Imagine the frustration a hard-of-hearing student may feel if she is in a classroom with minimal support. She may hear very well in a quiet setting with a few students but become lost during a fast-paced group discussion.

As you can see, deaf and hard of hearing students are diverse. There are students who do not have cochlear implants and others who choose not to use any type of amplification. Some students rely completely on hearing and speaking without any speechreading (lipreading) while others depend on sign language. Many use a combination of sign language, speech, and speechreading. A survey conducted by the Texas School for the Deaf showed young children with cochlear implants were entering school with increased aural-oral abilities (abilities to hear and speak) (Nussbaum, 2009). With more deaf and hard of hearing students attending mainstream public schools and bringing with them a range of hearing and communication abilities, teachers should be aware that the implications for teaching and communicating in the classroom may be different for each student.

Reading/Literacy Acquisition

"I have two boys, Chris and Eric, one deaf and one hearing. When Chris, who is deaf, was very young he loved looking at picture books. We would make up stories to go with the pictures and sign them to him rather than trying to read word for word. When he watched television I would stand near the screen and sign the story to him. So Chris was exposed to language from a young age. He attended a mainstreamed program with an interpreter in a school that had a self-contained deaf and hard of hearing program and learned how to read through phonics. Eric, who is hearing, attended public school near home and his school didn't use phonics. Eric took longer learning to read than Chris."

-Joan

Twenty-first century literacy and inquiry-based learning requires students to be able to read and comprehend the written word. It is helpful to understand how deaf and hard of hearing students become literate if they are born missing a sensory ability critical for developing literacy.

While studies do continue to show the "average" deaf or hard of hearing student graduates high school with a fourth grade reading level the data comes from large-scale research. In fact, there are many, many successful deaf and hard of hearing students who have graduated high school with honors and have continued as outstanding students

throughout their higher education years (Kyle and Harris, 2011). To excel, these students needed to be literate. How do children who became deaf or hard of hearing prelingually (before learning speech) become successful readers?

Three Levels of Literacy Development

Hearing and deaf children go through similar early processes to achieve literacy as they begin to learn that writing is different from drawing and become aware of letters and their sounds (Mayer, 2007). Ferreiro (1990) as quoted in (Mayer, 2007) lists the three levels of early literacy development.

Level one:

Children mimic reading, sitting with a book, turning pages, and “reading” the book with text they have memorized. When children begin to write they go through a similar process as well. Their scribbles begin as random movements and evolve into scribbles that mimic actual writing with parallel rows of scribbles and spaces between those scribbles. Random letters may appear within the row. Hearing and deaf children go through this level similarly.

Level two:

Children learn that what they see in books are letters and each letter has a sound or sign. They learn that there are a certain number of letters used to create a word and that using letters differently may create a meaningless word. At this level children make literal connections, for example assuming the word “train” is a long word because a train is long, or, when being asked to write “three cats” write the word cat three times. Hearing and deaf children continue to learn similarly at this level (Mayer, 2007). When children make this transition and connection between letters and sounds, they have begun to develop phonological awareness, which is the understanding that sounds can become words and different sound pairings create different words (Mayer, 2007). The goal of phonological awareness is to understand that phonemes are the “building blocks of language” (Trezek, 2005).

Level three:

Children begin to connect writing to spoken or signed language. This is where deaf and hearing children begin to diverge in how they become literate. Mayer and Wells (1996) as quoted in (Mayer, 2007) list the four phases of becoming literate:

Phase one:

Face to face communication, through speech or sign

Phase two:

Self-to-self language – using language as a tool for thinking. Children show their understanding of this phase by “thinking out loud.”

Phase three:

Children apply their knowledge of face-to-face communication to print. Whereas previously they communicated by sign and voice they must now communicate those same thoughts through writing. Children begin to invent spellings. Hearing children invent spellings with letters and sounds. Deaf children who have access to a signed language may do this with fingerspelling. They may use the handshape for the first letter of a sign and make up the letters for the rest of the word. Deaf and hard of hearing children have a greater challenge achieving this third phase, which is the reason they need more access to language and literacy in all their environments (Mayer, 2007). The more prior knowledge they can bring with them as they become literate, the more easily they can make the transition from spoken/signed language to reading, writing, and understanding printed text. Think of the enormous challenge pre-lingually deaf and hard of hearing students who sign have, to become literate. Meyer (2007) writes, “Signing in one language and writing in another is a translation activity that goes far beyond what is asked of hearing children.”

Phase four:

When children do make this third phase transition from face-to-face communication to print and begin using it as a mode of communication they begin exploring different writing genres and complex uses of text. It is this fourth phase of literacy, which moves beyond the functional levels, that is necessary for inquiry-based learning, higher education, and sets the standard for how learners are assessed. It is this standard that many deaf and hard of hearing learners are unable to achieve. However, Meyer (2007) believes children who begin their education with a well-developed foundation of language have an easier time making the transition from speech (or sign) to print.

Reading Challenges

"...until we acknowledge that deaf and hearing students have somewhat different academic needs, we will not be able to adapt instructional methods to best match their strengths and needs. In order to optimize our teaching – and their learning – we have to take into account “whats,” “whens,” and “hows” of deaf students’ cognitive abilities. Whether it is differences in their lexical knowledge (McEvoy et al., 1999) or metacognitive strategies (Strassman, 1997), their motivation (Stinson & Walter, 1997) or their earlier educational placements (Stinson & Kluwin, 2003), it is essential that we recognize that deaf students are not hearing students who cannot hear.”

Marc Marschark, *Educating deaf students: Is literacy the issue?*

The three levels of literacy are complex and may impact all students – hearing, deaf and hard of hearing. Sousa described the process all children must go through to learn to read. Sousa (2009) wrote, hypothetically, we tell children that after learning to hear and articulate language they now have to change the way they think by shifting from whole words to “abstract symbols called the alphabet.” Some students adjusted to this way of learning, while others struggled to make that transition from spoken to written language (Sousa, 2009).

Without the right support, children who are born deaf may struggle to transition from a visual /spoken language to a written language. One of the questions in deaf education has been whether children benefit from phonological awareness being taught in the classroom. Because deaf and hard of hearing children are deficient in auditory processing some deaf and hard of hearing teachers do not teach phonological awareness (Trezek, 2005). However, studies show that deaf and hard of hearing students are able to achieve phonological awareness independent of their abilities to hear sounds or pronounce words (Trezek, 2005). Deaf and hard of hearing children learn differently and in multiple ways, just like their hearing peers but many are visual learners by necessity. Educators have experimented with various visual methods, such as Visual Phonics, to help students achieve phonological awareness.

Children need both phonological awareness and whole language to achieve literacy. Where phonological awareness teaches children to “understand that reading refers to the decoding of words” (Underwood and Person, 2004 as quoted in Eckert, 2008), the whole language concept teaches children to read for meaning. Children read through whole language by looking for clues and applying previously learned words to decipher new words (Reyhner, 2008). When children learn to read by decoding without emphasis on reading for learning or pleasure, they may be less prepared for the deep reading and critical thinking required in higher education (Eckert, 2008). On the other hand if children do not have phonological awareness to recognize words and sentences the whole language method may not be as successful. In addition, the whole language method of learning to speak and recognizing spoken words in print presented obstacles to children who learned to speak later than average. Children who began talking between two and two and a half years of age may have average reading skills when they were in first or second grade but by seventh or eighth grade may score lower than average (if early intervention has not been implemented) in “vocabulary, grammar, verbal memory, and reading comprehension” (Sousa, 2009). Recent studies have recommended collaboration between whole language and phonological awareness, with the ultimate goal being comprehension, accuracy, fluency, and expanded vocabulary (Kim, 2008).

Programs such as CAFÉ (comprehension, accuracy, fluency, expanding vocabulary) and Fountas and Pinnell's Guided Reading have helped address the differences between whole language and phonological awareness by encouraging both literacy methods in the regular (hearing) classroom. There is less agreement in teaching reading to students who are deaf or hard of hearing. Before No Child Left Behind and standards-based assessments, many teachers of deaf and hard of hearing students taught using the whole language approach; however, a national survey in 1997 showed that when teachers noted they used whole language in the classroom they were actually using basal readers. In the past few years, educators in deaf programs have begun implementing guided reading and interactive writing programs (Williams, 2011; Schirmer and Schaffer, 2010; Smith and Wang, 2010).

Just as the hearing education community sparred for years over best practices for teaching literacy so, too, have educators in deaf education. The difference is that while evidence-based research has shown the effectiveness of embracing both phonetics and whole language for the hearing community, there is less evidence that either method leads to large scale literacy success for deaf and hard of hearing children. Moores and Miller (2001) examined fourteen years of literacy research published in the *American Annals of the Deaf*. The authors found that the shift from whole language to phonics-based learning paralleled that of regular education. During fourteen years of research the authors did not find breakthrough methods that showed marked improvement in teaching deaf and hard of hearing children to read. The authors expressed concern over the shift from whole language to phonics-based learning and referred to a study that compared children engaged in stories and activities to a control group of those who were provided with reading material but not shown how to enjoy the stories. The experimental group engaged in stories and activities showed improvement in independent reading tasks and interest in books compared to the control group (Gillespie and Twardoz 1996, 1997 as quoted in Moores and Miller 2001).

Learning Challenges

“Why hadn’t our students learned English before coming to us? ... Was the deafness the problem? It is hard to learn an auditory language when you’re deaf. But assuming it can be done, what has been going wrong? We think that part of the failure stems from problems connected with cross-cultural communication. We believe there are misunderstandings between the deaf and hearing cultures that have blocked the kind of attitude and motivation necessary for any learning, especially language learning, to happen between the two cultures.”

Tom Humphries, Bette Martin, and Terry Coye, *A Bilingual, Bicultural Approach to Teaching English (How Two Hearies and a Deafie Got Together to Teach English*

With all the advances in hearing technology enabling deaf and hard of hearing children to improve their listening and speaking skills, and with all the efforts to provide an inclusive school setting, research over the last ninety years continues to show the “average” reading level of a deaf or hard of hearing high school student has remained at 4th grade. (Wang, 2010) The drop-out rate is high as well. Of the 4,000 students with hearing impairments reported in a 2007-2008 survey by the National Center for Education Statistics, 11 percent dropped out of school. This is higher than the 5.2 percent of white students and 9.3 percent of Black students who dropped out in 2009 (IES) A retention study by the National Technical Institute for the Deaf found that between two thirds and three quarters of students dropped out of college (Walter, 2010).

In recognition of the statistics quoted above, Marschark, et al. (2009), has suggested the reading challenges deaf and hard of hearing students are facing may not be about reading. He referred to over 900 articles written in the last forty years related to literacy and deaf and hard of hearing learners. Of those 900 articles only 22 met standards for an analysis of research results. The studies all examined a different “dimension of literacy.” (Luckner and Handley, 2006 as quoted in Marschark et al 2009). The conclusion: Teachers and researchers “don’t know as much about deaf students’ literacy as they think they do” (Marschark, et al., 2009). Deaf students need to have the same access to information and

literature as their hearing peers, and deaf educators need to encourage students in inquiry-based learning (Marschark, et al., 2011).

An analysis of reading comprehension among college-level students suggested students have the same difficulties comprehending a passage in sign language as they do reading print (Marschark, et al., 2009). The suggestion is that reading difficulties are not specific to phonological awareness but might be attributed to language comprehension presented in any modality (signed, spoken or printed). Marschark's study gave insight into how deaf students interpreted a passage "as a collection of individual ideas, rather than the sum of its parts" (Marschark, et al., 2009). This can present challenges when we teach students how to read for meaning by asking questions and looking for answers within passages. We teach note taking and summarizing but it may be hard for some students to find the main idea of a passage if they see it as a collection of individual ideas.

A deaf or hard of hearing student may be at a disadvantage if she's unable to bring to a conversation her personal and social experiences. Marschark, et al. (2007) found students who used speech were able to answer more free response questions (as opposed to multiple choice questions) correctly than students who communicated through American Sign Language. This finding, that students who used spoken language were able to answer a question without multiple choice options, suggested students who used speech as opposed to sign language as their first language may have access to more general knowledge than students who depended primarily on manual communication.

More concerning, however, is the ability of deaf and hard of hearing students to attend to discussions and understand what is communicated. A hearing student might be able to look down and take notes while listening to a lecture, or click on a computer program while listening to a demonstration, but a deaf or hard of hearing student must use his eyes to "hear". If the student is engaged in a group discussion that involves constant thinking and reflecting and gives his eyes a break by looking down for a moment, he may look up to discover he's now thirty seconds behind the discussion and quite lost. When conversation bounces from one person to another, it is also difficult to know when to jump

in to add to the conversation. While the above is based on the author's personal experience and observations, a study by Matthew (1993) found when deaf and hard of hearing students were signing to communicate in the classroom, their deaf and hard of hearing peers maintained visual contact for only 30 percent of the time. When teachers communicated to the class, deaf and hard of hearing students maintained visual contact for only 44 percent of the time. Further, Marschark, et.al. (2005) as quoted in Marschark (2007) demonstrated that regardless of the method of communication, oral or signed, deaf and hard of hearing students showed the same behaviors in visual attendance.

In addition to studying how deaf and hard of hearing students comprehend passages, Marschark et al. also observed how well deaf and hard of hearing students understood each other and how often they asked for repetition of questions. The study revealed deaf and hard of hearing students who used speech (who were "oral") understood questions by other oral students only 44 percent of the time, and students who signed understood questions by other signing students only 63 percent of the time. Finally, both students who used speech and students who signed "asked for repetition of questions only 20 percent and 13 percent of the time" (Marschark, et al., 2009). Again, these findings can impact how students learn in the library classroom. The school library learning environment may be fast-paced due to the need to teach as much as possible in a short period of time. Students who misunderstand important questions and are unaware they misunderstood will not benefit from learning in the library.

Conclusion

You now have a better understanding of how deaf and hard of hearing students learn to read and think, but you may still wonder how to connect their needs to the services offered in your school library. Chapter 2 will look at education and library services as they relate to students with special needs in general and specifically to students who are deaf or hard of hearing.

2 School Libraries in the Twenty-First Century

“We must understand the fundamental contributions school libraries make to learning outcomes. First, when school librarians collaborate with classroom teachers to enrich curriculum content, they help create more authentic learning experiences. Second, school library collections inform, educate, entertain, and enrich students at all levels....When students are able to ...explore information that is meaningful to them, they not only learn faster but their literacy skills grow rapidly; they learn how to learn.”

C. Beth Fitzsimmons, Ph.D., Chairman, NCLIS. Excerpted from a letter to President George W. Bush, February 13, 2006, introducing *School Libraries Work!*

In the 2003 issue of Northwest Education, Mike Eisenberg outlined his vision for the ideal school library program, which is one of “coordination, cooperation, and collaboration” (Eisenberg, 2003). During **coordination**, the teacher-librarian looks at the curriculum, looks at what is happening in the classroom, and makes suggestions to the classroom teacher. With **cooperation**, the teacher-librarian actively seeks out the classroom teacher after overhearing about a unit of study, or perhaps the classroom teacher talks about a project with the teacher-librarian. The teacher-librarian then offers to provide resources that can enhance the unit, whether it is a list of websites or an offer to teach a quick lesson in note taking or information gathering. Finally, in **collaboration**, both the teacher-librarian and classroom teacher sit down together to look at the curriculum and discuss the information and literacy skills that would be necessary to meet the standards. They work together to develop a unit or perhaps a few units that would incorporate classroom learning and information and literacy skill (Eisenberg 2003).

Consider the changes taking place as the school library strives to continue its shift toward inquiry-driven learning. The physical design of the twenty-first century library is changing how we teach. Some schools are trying to decrease shelving and increase community space. Libraries may use an open space with different areas dedicated to different types of learning. One space may have rows of tables for library instruction.

Rather than sitting at computer desktop stations, students may carry netbooks, laptops, and tablets and sit at tables, in comfortable seats, or on the floor.

Trilling (2010) calls these twenty-first century libraries “libratories,” and the library becomes a hub of activity used for projects, designs, research, discussions, and presentations. Maniotes (2010) describes learning centers as students grouped together in discussions over curriculum-based topics; students are not only discussing topics but also bringing their own experiences into the conversation. This type of environment can lead to new challenges for deaf and hard of hearing students who try to bring their own social and cultural experiences into the discussions and at the same time try to keep up with the potentially rapid pace of discussions in a possibly visually and auditorily noisy environment.

As schools continue the shift to become more digitized, communication between teachers and students may also take place in cyberspace through school-sharing websites such as Blackboard or Moodle. Students will need the language skills to access and communicate over these platforms. The need to teach our students through inquiry-based learning will only increase as technology continues to improve. We are helping to prepare our students for careers in the future that may not exist today. Students need to practice critical thinking skills that will help them transfer their current knowledge to new ideas. Since we may not know what specific skills our students will need years from now we have a responsibility to make our teaching accessible to all students of all abilities. To do so our classroom and teaching methods must change to embrace an inclusive learning environment.

Special needs students in public schools

“The Education for All Handicapped Children Act, P.L. 94-142, establishes the right of every American child, including the most severely handicapped, to an education. There are no exceptions. The aim of the law is quite clear. Stated in its own words, its goal is: to assure that all handicapped children have available to them... ‘a free and an appropriate education...which emphasizes special education and related services designed to meet their unique needs.’”

ENGAGING DEAF AND HARD OF HEARING STUDENTS

Jeffrey J. Zettel, Public Law 94-142: The Education for all Handicapped Children Act, an overview of the federal law

“The Individuals with Disabilities Education Act (IDEA) is a law ensuring services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities.”

IDEA: Building the legacy of IDEA 2004

Before 1975, when the Education for All Handicapped Children Act was passed, students with special needs were often educated in separate schools or were enrolled in public schools with minimal, if any appropriate support services. Until this Act, which became the Individuals with Disabilities Education Act (IDEA) in 1990 and was restructured again in 2004 as the Disabilities Education Improvement Act (IDEIA) (Smith, 2010) teachers and school librarians in public schools were not required to make learning accessible to all students. After 1975 and IDEA, schools had to adjust to the vision of mainstreaming and inclusion, which was to provide a free and appropriate education in the least restrictive environment for students.

Inclusion

“Inclusion is not a place or a placement. Inclusion is a philosophy regarding the manner in which a free, appropriate, public education is to be provided to children with disabilities.”

Diane Sydoriak, Defining inclusion

The Arc is a “national community-based organization advocating for and serving people with intellectual and developmental disabilities and their families.” It has written a position statement on education and inclusion, explaining that although the term meant to “include” students with disabilities in the same classes as their nondisabled peers, many students remained segregated within their schools with limited access to the same education and social interactions as their peers. Some students who were considered to be part of an inclusive classroom were segregated within the classroom itself with an aide,

less challenging work, and minimal communication opportunities (Smith, 2010). As a result these students graduated high school with less education and less social and daily living skills to prepare them for their adult lives. The Arc's position paper stated school districts needed to reverse this negative trend of segregation and provide the necessary academic support students needed to succeed in an inclusive classroom. (Arc, 2008).

Inclusion versus Mainstreaming

The Arc uses the term "inclusion" throughout its statements, not "mainstreaming." There continues to be confusion between the two terms. As Diane Sydorik (1996) explained in the above quote, inclusion is the idea that students are entitled to an appropriate education in the least restrictive environment that will provide them with the best opportunity to learn and socialize with their peers. Mainstreaming, by contrast, refers to educating a student with a disability in the regular classroom with or without support. (Bradley, et al., 1997) as cited in "Inclusion Confusion: Putting the pieces together" (Snyder, et al., 2001), explains mainstreaming places a student in a regular classroom when she demonstrates she can do the same work as her non-disabled peers. Inclusion considers how the student fits into the school learning community by being included in regular classes from the start of her education. Inclusion is the philosophy where differentiation is the process. When educators accept students in the classroom as having different learning preferences, they can begin to differentiate in how they teach to ensure all students have opportunities to learn.

Theoharis (2009) observed for an inclusive school to be truly inclusive teachers and special educators had to let go of their exclusive roles and work together to co-teach in the classroom. This meant including special educators in team and curriculum meetings. The same philosophy should apply to teacher-librarians.

Differentiation

Inclusion in general education and attention to belonging are the first steps toward greater achievement for all students. But this must be followed by improving the core teaching and curriculum to enhance learning of all students through differentiation, and teaching to multiple modalities and learning preferences.

Julie Causton-Gheoharis and George Theoharis: *Creating Inclusive Schools for All Students*

Carol Ann Tomlinson and Marcia B. Imbeau, in their book, *Leading and Managing a Differentiated Classroom* (2010) identify seven key elements in differentiation. The following is taken directly from their book:

1. Students differ as learners in terms of background experience, culture, language, gender, interests, readiness to learn, modes of learning, speed of learning, support systems for learning, self-awareness as a learner, confidence as a learner, independence as a learner, and a host of other ways.
2. Differences profoundly impact how students learn and the nature of scaffolding they will need at various points in the learning process.
3. Teachers have a responsibility to ensure that all their students master important content.
4. Teachers have to make specific and continually evolving plans to connect each learner with key content.
5. Teachers are required to understand the nature of each of their students, in addition to the nature of the content they teach.
6. A flexible approach to teaching “makes room” for student variance.

7. Teachers should continually ask, “What does *this* student need at *this* moment in order to be able to progress with *this* key content, and what do I need to do to make that happen?”

Special needs students and school libraries

Students with a range of physical, cognitive, and emotional disabilities represent an increasing portion of our students. In order to foster inclusion and independence for all students through the library, school librarians must develop the right leadership and instructional skills.

Anne Marie Perault, Rethinking school libraries: Beyond access to empowerment

In the years before and in the early years of IDEA some librarians did acknowledge students with disabilities as equal members of their library and sought to ensure they had the same access to library services as their non-disabled and hearing peers. One of the earliest studies in school library services for students with learning challenges was described in “Library Services for the Severely-Profoundly Retarded” in 1976. Through an LCSEA grant, a librarian and aide were hired at a state school and thrice-weekly library services were provided for thirty students with visual, intellectual, and auditory challenges. A control group of thirty students at the state school did not receive access to library services. Librarians recorded student responses to books, toys, games, and audio-visual materials. The study found positive reactions in students using the library, including independence in choosing reading materials and improved social interactions (Wolfinger, et al., 1977). Although this study took place in a state school it is useful for public school teacher-librarians to help them recognize Intellectually Disabled students in their school as contributing members of the learning community who will benefit as much as their nondisabled peers from accessing library services.

As students with special needs became part of their public school learning community, their teachers were challenged to understand their special students and differentiate lessons to meet their needs. Some educators provided support to teachers through guides to assist classroom teachers and librarians in meeting the needs of special learners. In 1980, after the Education for All Handicapped Children Act but long before

IDIEA, Joyce Petrie, et al. (1980), wrote a 200-page manual on serving students with special needs in the school library. Her manual described different disabilities and offered suggestions as to how teacher-librarians might meet their needs in a school with mainstreamed students.

Walling and Karrenbrock (1993) and Wesson and O'Keefe (1995) followed Petrie's manual with textbooks about serving students with special needs in the school library. All sources offered reasonable communication and lesson modification suggestions for students with diverse needs; however, the information relating to students who were deaf or hard of hearing was less helpful for understanding their unique culture, how they came to be in the mainstreamed classrooms, and why their communicative and social needs were more challenging than their hearing peers.

Inclusion and differentiation look different in a classroom with deaf and hard of hearing children than for children with physical or intellectual disabilities because students are separated not by things and concepts but by communication.

Deaf and hard of hearing students in school libraries before IDEA

"Traditionally, deaf people do not get involved in political activities that involve library and information issues. This is probably because their different organizations have not kept up with needs in the information area or have different priorities. Library and information services have never been viewed by such organizations as a separate area to share the same bench with the three other areas – education, vocational rehabilitation, and human health."

Alice Hagemeyer, *We Have Come a Long Way*

Libraries, both public and school, have not always been welcoming environments to deaf and hard of hearing patrons. A deaf person who depends on sign language in large groups cannot decide on the spur of a moment to attend a lecture. She needs to plan ahead, then worry about not missing the event because if she does the library will a) have lost money that still must be paid to the interpreter, b) perceive her as unreliable, and c) will not want to schedule an interpreter again. A deaf person may worry how he will

communicate with the staff. How will he talk to someone with a beard or protruding teeth? Most people can write notes back and forth but some deaf adults have poor writing skills. How will they communicate their needs?

Recently I talked with an elementary school friend about our school library. I told her I did not remember learning from or understanding our librarian. I recalled researching from an encyclopedia and being told by a classmate not to copy word for word. I remember feeling ashamed and stupid for not knowing what to do. The friend recalled many times when I missed what was communicated in class and turned to her or other classmates for clarification. She remembered feeling angry that none of our teachers sought to ensure I understood what was communicated.

During my school years I endured filmstrips and movies without written scripts and afterwards had to complete assignments related to the content. But the resources I needed to support my learning were already available had my school taken time to become informed. I attended kindergarten through twelfth grade between 1970 and 1983. The Described Captioned Media Program (DCMP), which could have provided captioned media to my school at no charge had our librarian applied to this program, was established in 1958. In fact, the Alexander Graham Bell Association for the Deaf, an organization that continues to encourage deaf and hard of hearing children to use speech without sign language, published a brochure with DCMP in 1960 titled, *School Library Services for Deaf Children* and outlined clearly how to look for and use filmstrips and films with children who were deaf. In 1967, the American Instructors of the Deaf, also with DCMP, created standards for library media centers in schools for the deaf. The standards focused specifically on the population served, the volume of the collection, and types of media used.

Because many severely and profoundly deaf students were still educated in state schools for the deaf through the 1970s, articles written during those years focused on this population. However, many of the ideas that came out of these articles could be applied to students in public schools, whether mainstreamed or in self-contained classrooms. The American Instructors of the Deaf recognized the need for library services for deaf students

and emphasized that it was more important for deaf students to have access to libraries than hearing students. Darling (1967) as quoted in Odien (1992) wrote that “these schools educate children with the most severe handicap of all educable children” and “to accomplish the same educational goals, media services for the deaf need to be three times as extensive as those for the hearing.”

In 1979 Mary Jane Metcalf, librarian for the Illinois School for the Deaf, talked about what she had learned and how best to provide school library instruction to students who were deaf. Metcalf used terms in her article that would be considered inaccurate today. She referred to the deaf students who attended her school as having language retardation, which affected both reading and writing. We understand today that language may be delayed due to other disabilities, lack of early intervention, or communication in the home. Unless there are other disabilities present we know most deaf and hard of hearing students have average or above average intelligence. We also understand the transition from signed words to written English can be challenging for some students.

But Metcalf was correct in recognizing that because deaf and hard of hearing students were separated linguistically from the hearing world they did not hear the natural flow of spoken conversation that included figurative language. For example, when students saw a sentence stating the character made a “mad dash” for the stairs, they thought this meant “angry soap” (Metcalf, 1979).

When students have difficulty with language in a book and are unable to find books at their age level with language they can read, they may become reluctant readers (Metcalf, 1979). When they become reluctant readers they may wander around the library during “library time,” and grab books their hearing classmates or siblings are reading, regardless of whether or not they can read them. Today students have a huge breadth of books to choose from to find stories they can relate to with vocabulary they can read; but many students are not being guided to these books. They are also missing opportunities to learn from the figurative language in picture books. With proper guidance from caring teacher -

librarians, they might find stories that appeal to them and encourage them to continue reading.

Deaf and Hard of Hearing students in the school library today

“Listening for comprehension requires focus. That level of focus is different for someone with normal hearing than it is for those with hearing loss. People with normal hearing are able to listen passively – even allow their attention to wander, say to an iPhone or television screen – and still respond to auditory cues in the conversation. For someone with hearing loss, multitasking during a conversation means something completely different. In fact, multitasking frequently interferes with their ability to follow the discussion. They typically have to devote greater attention to reading your lips and deciphering cues and gestures.”

Listening is Exhausting! *HearingLikeMe*.

Obstacles

How has the continually evolving public school library media center impacted learning for deaf and hard of hearing students? An ideal learning modality for a deaf or hard of hearing student would be to watch a teacher-created video without sound, complete with captions, arrows and step-by-step guides. In reality, this student may sit in front of a computer, LCD projector, or Smartboard while the teacher-librarian verbally introduces students to various databases and demonstrates a search or models an activity. Unlike the hearing student, who can watch a screen and hear the teacher at the same time, the deaf or hard of hearing student has to choose. Should he watch the teacher or interpreter? Should he focus on the LCD or Smartboard? Or should he just look at his own computer and try to understand the lesson on his own? Whichever choice he makes, he will have less than half the access to the information being presented than his hearing peers.

Language, whether written or spoken, is another obstacle for some deaf and hard of hearing students. Online learning may sound like the answer to all communication barriers for deaf and hard of hearing students. While my own experience as an online learner in

graduate school was fabulous it may be less so for students who struggle with language and depend on facial expressions and gestures to help understand the scope of a conversation. My class discussions took place synchronously online but the required semester on-campus sessions were often a challenge. Our program was student-driven so discussions occurred before, during, and after class. We broke into groups in noisy environments. The interpreter had to decide which information was most relevant for me to hear. In spite of everyone doing their best to make my learning experiences as accessible as possible my being deaf resulted in a less valuable learning experience. We may not be able to make the learning experience perfect for everyone, but the best way to design a program to meet the needs of diverse users is to understand the users and how their learning may differ from the general learning community.

Deaf and hard of hearing students in self-contained classrooms have their own set of obstacles, the primary one being direct access to library literature and instruction. When a student's day is filled with speech therapy (and possibly other therapies if multiple disabilities are present), learning to read, learning to follow instructions, learning to communicate, meeting with the social worker, and learning basic math skills, there is not always much time left for developing critical thinking skills. Students are allotted library time but the language barrier often prevents the teacher-librarian from talking to students, learning their interests and reading levels, and suggesting good-fit books. Some students might hear a story while the teacher or interpreter interprets, but again the teacher-librarian may not know to look for visual cues that show the students' attention may be wandering or they may be confused by words in the story.

As we explore inclusion and differentiation, think about your own learning environment and consider how you might make learning accessible for all students.

Inclusion and Differentiation

“I was the only hard-of-hearing student in my eighth grade algebra class in the mid 1970s. Day after day, I sat in the first row trying to follow my teacher as he turned away from the class to write algebraic equations on the blackboard. One afternoon, frustrated after another day of not being able to learn from this teacher, I asked my mom to take me to a teacher supply store. The next day I handed my teacher transparencies for the overhead projector. ‘Would you do me a favor?’ I asked. ‘Would you try writing the equations on these transparencies while facing the class? This way I can look at you while you’re explaining the problems.’

My teacher looked at me for a moment, then said, ‘That is the BEST idea I’ve ever heard.’ After the next test, every student in class saw an improvement in grades.”

Marc

Differentiating for students can sometimes be as simple as turning to face the class. For someone like me, whose deafness is more profound, watching both the problems on the overhead projector and the instructor would have been challenging. In my case, I may have benefitted from small group instruction or, even better, one-on-one instruction. But in the 1970s and 1980s none of my teachers differentiated. The only accommodation I had was sitting in front of the class. Unlike the narrator above, I did not know how to advocate for my needs.

Deaf and hard of hearing children learn differently in an inclusive environment, depending on the profoundness of their hearing loss, their communication preferences, and their language proficiencies. Families may face difficult decisions when they have to choose the least restrictive and best learning environment for their child – a mainstreamed classroom in an inclusive school, a self-contained classroom in an inclusive school, or a school for the deaf. It is hard for parents to know what environment will be right for their child. I know many deaf and hard of hearing students, like myself, who had to advocate for their needs because they were the ones experiencing the education. Some students asked to attend residential schools or schools with self-contained programs. Some students chose to be mainstreamed in these schools so they could socialize with other deaf and hard of hearing students. Being the only deaf or hard of hearing student in a school of 1200

students can be lonely and isolating. This was one reason I requested a transfer to a school with a support class for oral deaf and hard of hearing students, although I eventually transferred back to my local school. With all the support I received, however, I do not recall any interaction with the teacher-librarian.

Twenty years have passed since Wallings's and Wesson's textbooks on serving students with special needs in the school library. Occasional articles continue to focus on serving students with intellectual disabilities and physical challenges (Knowledge Quest, 2011), but teacher-librarians still benefit from understanding how the social, cultural, literacy, and language needs of deaf and hard of hearing students differ from their hearing peers because, as explained in the next section, meeting the needs of all users is one of the American Association for School Libraries' standards for twenty-first century learning.

Standards for the 21st century learner

"All children deserve equitable access to books and reading, to information, and to information technology in an environment that is safe and conducive to learning."

American Association of School Librarians, Standards for the twenty-first century learner: Common beliefs

The public school library evolved long before the Individuals with Disabilities Education Act and the Americans with Disabilities Act. It evolved when students with special needs attended their own private schools or were placed in a public school without support. Little thought may have been given to differentiation and adapting teaching to meet the needs of special learning styles when the original role of the school librarian was to keep the library organized and ensure information was available and disseminated. As librarians took on teaching roles, from academic libraries down through elementary schools, they had to rethink their methods to meet the needs of all users.

Sometimes though, even with our best intentions, we miss some students along the teaching process. One high school in Illinois sought to correct this oversight by applying for

a grant that led to my teaching information literacy skills to deaf and hard of hearing students in the school's self-contained program.

With 1900 students, Hinsdale South High School, in Darien, Illinois, is also home to one of the largest deaf and hard of hearing programs in Chicagoland's Western suburbs. Approximately 70 deaf and hard of hearing students learn in both self-contained and mainstreamed classes. In 2011 the library distributed a user needs survey for the entire student population. Of the deaf and hard of hearing students who responded, the needs they listed were:

- 1. Websites other than Google for doing research**
- 2. More details and suggestions on how to find information about various topics**
- 3. Troubleshooting problems that may occur while using computers**
- 4. Guidance in using various computer programs**
- 5. Explanation of library rules**
- 6. Reader's advisory, particularly how to find nonfiction books**

When you look at this list of concerns you can see their needs are reflective of the twenty-first century learning standards we are trying to teach! Let's see how these fit in the framework created by the Partnership for 21st Century Skills (2011):

- 1. Websites other than Google for doing research**
- 2. More details and suggestions for how to find information about various topics**

These requests fall under "Learning and Innovation Skills" (P21, 2009). Students need to learn how to think creatively, work creatively with others, reason effectively, use systems thinking, make judgments and decision, and solve problems. Searching for information is also part of the learning process of communication and collaboration.

Of these skills, "using systems thinking," may be challenging for deaf and hard of hearing students. Systems thinking refers to analyzing "how parts of a whole interact with

each other to produce overall outcomes in complex systems.” As discussed earlier, it has been suggested that deaf and hard of hearing students see a passage “as a collection of individual ideas, rather than the sum of its parts” (Marschark, et al., 2009), so the ability of students to deep read passages (Level 3 of literacy development) is of particular concern.

But the fact that students have listed research as one of their needs means that they want to learn and may feel they do not have enough opportunities to do so.

3. Troubleshooting problems that may occur while using computers

4. Guidance in using various computer programs

These are “information, media, and technology skills,” (P21, 2009). Most deaf and hard of hearing students who use computers regularly (in middle school and high school) do know the basics of logging in, accessing their grades, checking e mail, and sending and opening attachments. However, seeing this as one of their needs may tell us that students are missing information. It is not clear whether they are missing the information during class, or whether they are not provided with this information at all.

5. Explanation of library rules

- **How do I use the library during study hall?**
- **Can I go to the library during my lunch? Do I need a pass?**
- **Can I still check out a book if I forget my ID?**
- **Can I use the library before or after school?**
- **What happens if I don’t understand the speaker?**

These are “life and career skills” (P21, 2009) questions. Students will have concerns such as these throughout their years. For most students these questions are often answered during beginning-of-the-year orientations, but some deaf and hard of hearing students are missing information during orientation. If the library provides this information in a brochure the language may be a confusing.

6. Reader’s advisory, specifically how to find nonfiction books

These are “core subjects” themes (P21, 2009). Why non-fiction books? Some deaf and hard of hearing students who struggle with language may prefer the pictures in non-fiction books over stories. This understanding gives us all the more reason to take time to know our students and their reading levels. When we see students browsing the shelves and coming away with a book we are often pleased they have found something we assume they will like. But when we know our students better, we may see the book and realize the reading level is too high – or not challenging enough – for the student. Some students may be overwhelmed by the volume of books in the library or in an e-reader and may appreciate our guidance in helping them find books they will enjoy.

Conclusion

Now that you have a foundation for understanding deaf and hard of hearing learners, it is time to look at your own library and begin thinking about your own instructional practices. How will you teach deaf and hard of hearing students in an inclusive library classroom? The next chapter offers guidance in meeting the needs of this special learning population.

3 Learning with Deaf and Hard of hearing Students: Recommendations and Strategies

“Higher performing school library media specialists and programs may be a function of a more enriching learning environment that includes a supportive administration, collaborative teachers, and an up-to-date resource and technology base.”

Daniel Callison, et al., Survey of Indiana School Library Media Programs: A Collaborative Project Between the Association for Indiana Media Educators & Indiana University as cited in *School Libraries Work!*

Librarian as Program Administrator

Facility design/space planning

The school library is slowly changing from its traditional book shelf space to an open “learning commons.” Learning may take place face to face or virtually, in real time or asynchronously, through video chat or through writing. Hopper and Seaman (2011) call this learning environment “blended learning.”

There are pros and cons for deaf and hard of hearing students who attend schools with these learning environments. Some school libraries are being renovated to include small classrooms along with a larger learning space while others may be one large learning commons. There are important considerations to be made when planning instruction in a blended environment. Below are potential obstacles that may occur in a variety of learning platforms:

- **Face-to-face learning**

Take a moment to listen to your library during quiet and busy times. Do you hear background noise? Any amount of background noise will make learning challenging. Consider the sound level when you have group conversations taking place in your room. Background noise often doesn’t impact hearing individuals but it can have a huge negative impact on deaf and hard of hearing students. The ability to hear in noisy environments decreases as one’s hearing loss increases (Gosalia, 2012). Digital hearing aids and cochlear

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implants have improved this ability, and many teacher-librarians may wear FM systems, which amplify their voices directly to the deaf or hard of hearing student, but students who are hard of hearing and do not rely on hearing aids or FM systems will have difficulty following discussions in a noisy environment.

Figures 5 and 6 below show recently remodeled school libraries. The arrangement of the desks appears to recede far from where the teacher is standing. Deaf and hard of hearing students may hear their teacher if they are close to her but would have difficulty hearing their peers, who may be sitting farther back.

Figure 5: Arrangement of desks may impede communication amongst hearing and deaf or hard of hearing students



[http://www.libraryjournal.com/csp/cms/sites/dt.common.streams.StreamServer.cls?STREAMOID=OTVOW1dRSstnhp9SIbq4z8\\$daE2N3K4ZzOUsqbU5sYsA5nOBD5vUh1eUsOnMG82qWCsjLu883Ygn4B49Lvm9bPe2QeMKQdVeZmXF\\$9I\\$4u CZ8QDXhaHEp3rvzXRJFdy0KqPHLoMevcTL03h&xh70Y6N_U_CryOsw6FTODKL_jpQ-&CONTENTTYPE=image/jpeg](http://www.libraryjournal.com/csp/cms/sites/dt.common.streams.StreamServer.cls?STREAMOID=OTVOW1dRSstnhp9SIbq4z8$daE2N3K4ZzOUsqbU5sYsA5nOBD5vUh1eUsOnMG82qWCsjLu883Ygn4B49Lvm9bPe2QeMKQdVeZmXF$9I$4u CZ8QDXhaHEp3rvzXRJFdy0KqPHLoMevcTL03h&xh70Y6N_U_CryOsw6FTODKL_jpQ-&CONTENTTYPE=image/jpeg)

Figure 6: Arrangement of desks may impede communication amongst hearing and deaf or hard of hearing



[http://www.libraryjournal.com/csp/cms/sites/dt.common.streams.StreamServer.cls?STREAMOID=VzC\\$z86OSrOcsLlOB4\\$008\\$daE2N3K4ZzOUsqbU5sYtthhbUf7lo5tiSxqfQf5wiWCsjLu883Ygn4B49Lvm9bPe2QeMKQdVeZmXF\\$9I\\$4u CZ8QDXhaHEp3rvzXRJFdy0KqPHLoMevcTL03h&xh70Y6N_U_CryOsw6FTODKL_jpQ-&CONTENTTYPE=image/jpeg](http://www.libraryjournal.com/csp/cms/sites/dt.common.streams.StreamServer.cls?STREAMOID=VzC$z86OSrOcsLlOB4$008$daE2N3K4ZzOUsqbU5sYtthhbUf7lo5tiSxqfQf5wiWCsjLu883Ygn4B49Lvm9bPe2QeMKQdVeZmXF$9I$4u CZ8QDXhaHEp3rvzXRJFdy0KqPHLoMevcTL03h&xh70Y6N_U_CryOsw6FTODKL_jpQ-&CONTENTTYPE=image/jpeg)

Instruction such as that pictured below (Figure 7) is also challenging. Children are seated on the floor looking up at the screen. A student who depends on speechreading or sign language will be focused, with strained neck, on the speaker or interpreter and miss most of what is presented on the screen. Sitting in a chair would easily alleviate this barrier.

Note that the lights are on during the presentation in this picture. Many of us turn off lights when doing a presentation but doing so completely excludes deaf and hard of hearing students who depend on sign language or speechreading.

Figure 7: a student can sit in a chair to look directly, rather than up, at the teacher



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<http://ipswweb.ipswd.org/uploads/LMC/Bev%20Frett%20Clow2.jpg>

These next two pictures are from one of my former buildings. Note the large size of the technology area (Figure 8), where all instruction took place. This set up is not ideal for deaf and hard of hearing students when there are other students in the library engaged in conversation or checking out books. Because I was challenged to keep the attention of twenty-nine students in a large space, I introduced the lesson in a small space (Figure 9). Often I invited students to take turns practicing in this “story corner.” For many students, the face-to-face direct instruction, along with step-by-step written instructions, was all they needed to proceed independently with the lesson.

Figure 8: Large technology space is not ideal for deaf or hard of hearing learners



Figure 9: This smaller story corner is ideal for introducing new concepts before going to the larger computer space.



- **Virtual learning**
 - **Real Time (Synchronous)**
 - **Visual**

Examples of instruction that may take place virtually and visually (using videoconferencing software, such as Skype) are author visits and communication with students in other schools. Students who depend on sign language will need to sit near the front so that they

may see both the author and the interpreter; however, they may spend more time watching the interpreter. Students who depend on speechreading and listening may encounter obstacles if there is a time delay; the author's words may not match her lip movements.

Students who use only their hearing may encounter challenges if the author's virtual speech sounds different from what they are accustomed to hearing.

- **Typed**

Examples of on-line real time instruction may be courses in which students log in at the same time, either during or after school. While this may seem the ideal environment for students who are deaf or hard of hearing there are still potential barriers. As the class takes place the teacher may use her voice while the students type responses or both teacher and students may type their conversations. Students for whom language is a challenge may encounter obstacles with this format as they will need to read, understand, and respond quickly. If the teacher is also speaking students will not be able to benefit.

- **Asynchronous**

An asynchronous class may be an actual class where the teacher leaves instructions and students respond within a given time frame, or it may be a wiki where students share information. As with synchronous classrooms, students for whom language is a challenge may struggle if they are unable to comprehend the instructions or have difficulty comprehending their peers' responses.

Maintaining a welcoming atmosphere

When I was an undergraduate at Penn State back in the mid 1980's all incoming freshman were required to complete a self-guided library orientation. For students who were comfortable going up to every reference person and asking him to point the way, the orientation probably passed quickly. But asking directions is challenging for a deaf or hard of hearing person. The student must look at the speaker's face while he provides directions, all the while using his arms and fingers to point to locations. If the student looks in the direction the speaker is pointing, she loses the spoken directions. If she looks at the speaker, she loses the visual directions.

For me, asking for directions is mentally exhausting and a waste of my time. So when I entered Pattee Library to complete my orientation I began by looking around. I assessed the environment and looked for as much signage as possible to guide me through the process. I do not remember seeing much signage. The tour took me four hours. I was tired, dizzy, and not very happy – and I'm not sure I knew my way around the library any better than when I began.

For a deaf or hard of hearing student, the more visual you make your library the more welcomed and comfortable the student will feel. Signage is important. Create large posters to showcase the location of all your materials. If your library still has a circulating print collection create large letters to help students find the last name of the author, or numbers to help students locate nonfiction texts.

The picture below (Figure 10) shows professionally manufactured letter signage. Using basic Microsoft Office tools, you can easily make your own! In my former building we printed and laminated letters, glued them to cardboard, and wrapped them around books we had weeded!

Figure 10: Professionally manufactured letter signage



Scheduling

The primary obstacle for students who are deaf and hard of hearing in scheduling library instruction is the amount of pull out they may receive for speech therapy, academic support, and other therapy if they have multiple disabilities. If you are on a fixed schedule you may have little control over how much instruction your students receive, especially if your instruction is not considered a “special.” Sometimes it is helpful to talk to the teacher, and once in a while she may make an exception. I had one deaf student in my building and his teacher scheduled his weekly itinerant therapy during the second half of our 30- minute fixed instructional time. When I began teaching book trailers even the teacher could not contain her enthusiasm for this unit. She agreed to talk to the student’s therapist and allowed him extra class time to work on his book trailer, which he did with another student.

If you have a flexible schedule (and a flexible classroom teacher!) try to arrange one-on-one time with the student if she misses classes. In a high school or junior high, ask if the student might work with you during study hall, if she has one. In schools with large deaf and hard of hearing populations many of the students are bussed to the school and sometimes they may travel for more than an hour each way, so it may be challenging for them to arrive before or after school. Some programs do provide a late bus so it never hurts to ask the student’s teachers if she can receive extra support outside of school hours.

Policies

Hinsdale South High School, mentioned earlier, received responses for their user needs survey from ten students who were deaf or hard of hearing. Several responses related to library policy: How do I use the library during study hall? Where do I go if I use the library during lunch? What happens if I forget my student ID? Where is the online catalog? What is the fine for overdue books?

Much of this information is covered during beginning of the year instruction but if it is explained orally students may not retain all of the information. Let us be honest

here...even our hearing students do not remember all the library policies! Patience and reinforcement are key, along with accessible printed information, whether available online or in print. In some communities students still may not have access to home computers, so print brochures are helpful. Read the language on your brochure to ensure it is accessible to a second through fourth grade reader. While this may seem very low for high school, students who are in self-contained classes often have lower language skills. We want to encourage independence, and based on the student survey, students want to be independent as well. Ensure the language on the brochure is clear and easy to comprehend. It may also help to have clear signage near the circulation desk as well.

Librarian as Information Specialist

“Media specialists must know how to apply technology to solve problems, acquire information, and create products. From designing a virtual presence for their library to scheduling student assistants, technology plays an important role in today’s school library.”

Annette Lamb, *Bursting with Potential: Mixing a Media Specialist’s Palette*

Audiovisual materials



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I do not remember when in my high school years I discovered foreign language films. I recall watching many of them throughout my college years because at the time, movies weren't captioned in theaters. During my week of freshman orientation at Penn State, I attended a meeting for students with disabilities. To help break the ice we watched *Revenge of the Nerds*. The story was silly but I did not care; this was the first time I'd

watched a closed captioned film. When I graduated from college in 1987 I bought myself two devices: a text telephone and a closed-captioned decoder. The first movie I rented? *The Gods Must be Crazy*. A new world of accessible media opened to me.

In 1972 *The French Chef*, shown on PBS, became the very first show to have open captions for its deaf and hard of hearing audience. Also on PBS, ABC News rebroadcast its news in 1973 with open captions, and continued to do so until closed captioning technology became available in 1982. In 1980, deaf and hard of hearing individuals who had bought the first closed-captioned decoder devices enjoyed their first closed captioned television series. (NCI, 2012) When the Telecommunications Act was passed in 1996 the FCC set a target date to require all television networks to caption all shows between 6:00 am and 2:00 am.

Captions and subtitles are not the same. Captions are text that appear on the screen and include not only the dialogue but also the audio cues that are occurring both on and off screen. Captions are usually “closed” and accessible by turning on the captioning feature on the television. Since 1990 all televisions are required to have a closed captioned feature. Try not to lose the original remote for your school television; you will most likely need it to access your television’s menu to turn on the captions.

Subtitles are text on the video that usually just translate the dialogue. Subtitles may be burned into the video so they cannot be turned off, but DVDs and other formats often have features allowing subtitles to be turned on and off (CPC, 2011). Viewers do not need closed-captioning decoders to access subtitles but occasionally (and frustratingly) the features required to access the subtitles will work only on a program such as Windows Media Player and not on a television.

When you order a DVD or other video format check inside the catalog or with the publisher to ensure the video has captions or subtitles. Follet’s Titlewave permits users to search by limiting videos to those with captions (Titlewave, 2012).

Described Captioned Media Program

There are several companies that offer to caption videos for a fee but the Described Captioned Media Program, which has been in existence since the 1950s, provides educational media in multiple formats with captions and descriptions. This service is free so be sure to check their on-line library to see if they have any films that might meet your school curriculum's needs.

Playaways

I was amazed by the popularity of Playaways when I began my previous library's Playaway collection, but then I thought back to my elementary school years and I recalled lounging in my beanbag chair in my room reading Dr. Seuss's *Yertle the Turtle* while listening to it on a record album. It was an enjoyable experience.

Encourage Playaways with the printed text for students who benefit from amplification (hearing aids and cochlear implants). Students with cochlear implants can connect a Personal Audio Cable from their implant processor to the Playaway (or iPod).

Collection Development

When I first worked with students who were deaf and hard of hearing I thought they would enjoy books with deaf and hard of hearing characters, just as I did. I was wrong. Most students want to read the same books as their friends. This is fine when their reading levels are the same as their hearing peers but most of the students I worked with had reading levels well below their grade level. They could read the words but had difficulty comprehending the meaning.

When it comes to collection development geared to students who are deaf or hard of hearing purchase the same books as you would for the rest of the student learning community. Consider Universal Design for Learning, described in the following sections, and know that when you purchase books to engage an older deaf or hard of hearing

student who is reading at a lower level, you are also accommodating English Language Learners and all students who have reading challenges.

E-readers, with their built-in touch-screen dictionaries, offer literacy benefits to all students but especially students who find reading challenging. The website IDK (Irish Deaf Kids), a Dublin-based nonprofit organization supporting inclusive education for students who are deaf or hard of hearing compiled a list of benefits of e-readers:

- “Children stay engaged for an entire story – regardless of hearing
- Reluctant readers can be enticed with a range of comics and books
- E-readers give reading an extra edge for young digital-natives
- Linking of items and words can improve children’s word understanding
- Vocabulary and comprehension improve with increased interactivity
- Grammatical structures are learned as readers engage with an e-book
- Deaf and hard-of-hearing students can use multimedia like captions and captioned video
- Captions in e-books allow children to link sounds to words in stories (newcomers to cochlear implants need to learn to hear new sounds)
- Sound can be switched on, or off in e-readers, as the reader prefers” (Heck, 2012).

Reference service

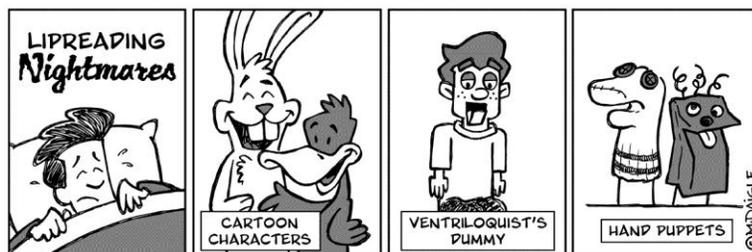


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Your role as a teacher-librarian may differ from that of your peers. You may be teaching classes all day or just a few classes each week. You may be fortunate enough to have a flexible schedule, allowing you to be available to provide reference service when students use the library for class assignments. Whether you are teaching a class or assisting a student one-on-one, become familiar with the following list of helpful “do’s and don’ts” when communicating with students who are deaf or hard of hearing. You will find similar lists on various hearing health and education websites listed at the end of this handbook, but I have added notes from my own personal experience, both as a student and also as a teacher.

Do's and Don'ts in communicating with deaf or hard of hearing students: perspectives from both sides of the reference desk

- **Do** recognize and be sensitive to the fact that it is entirely possible the way you have been speaking and being understood your entire life may be difficult for students who are deaf or hard of hearing. If you are used to not moving your mouth very much, have an accent that is different from the region you work in, or have your own speech impediment, deaf or hard of hearing students may have some difficulty understanding you. I have experienced this myself as hearing students can detect my speech is different from what they are used to hearing. I explain my deafness, where I am from (I teach in one region of the United States but grew up in a different region), and tell them to let me know when they do not understand me.
- **Do** take your cues from the student. If she speaks to you, respond using speech. If she does not understand you, repeat or rephrase your words before you write your response.
- **Do** rephrase your question or answer if the student does not understand you. Sometimes the words are unfamiliar or appear different when you say them. Changing the words sometimes helps clarify the meaning.
- **Do** choose a quiet environment for your classes, if possible. Avoid communicating where there is a lot of noise or visual activity.



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- **Do** recognize that speechreading lips covered by a thick beard or mustache is challenging and sometimes impossible. You are not required to shave a beard you have had your entire adult life but recognize you will not have a very beneficial

educational relationship with a deaf or hard of hearing student – unless you both know sign language. Beards, goatees, and mustaches that are groomed thin and neatly trimmed are quite reasonable and easy to speechread.

- **Do** avoid standing in front of bright lights or windows. The light will make it difficult for the student to see your face. Some school libraries have lots of windows with plentiful sunshine. You may need to close the blinds or reposition your class so the student is not facing the window.
- **Do** think about where you will be standing or moving when you teach a class and **do** allow teenage deaf and hard of hearing students to choose their seats first. If I attend a class or workshop I will ask a speaker where she will be standing. If she is moving around I try to position myself where I will see her best. Remember, seating a student up front when you plan to stand in the center near a computer is not a reasonable accommodation. I ensure I am standing still when I am speaking and am always in front of the student, but not so close that he can see up my nose. If I am reading from a book and I have just one deaf student in the class I may ask him to sit next to me so he can follow along with me.



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- **Do** make sure you have the student's attention before speaking. Waving a hand, or a light touch on the shoulder or arm, is an acceptable way to get attention. Deaf people are used to being tapped to get their attention. Once someone tried to scare me by coming up behind me and moving his hand toward my shoulder. The joke was on him when he did not succeed!

- **Do** stand a normal distance from the student. As stated earlier, not only is it unpleasant and distracting to look up a teacher's nose but also it is a strain on the student's neck.
- **Do** write down words or phrases if the student is unable to understand you after a few attempts. If I do not understand a student's question after she repeats it twice I ask her to write it down.
- **Do** speak directly to the student if an interpreter is present. The student may watch the interpreter but you must still speak to the student.
- **Do** speak naturally and with normal expression, although if "normal" is very fast or you mumble, you may have to slow down and enunciate just a little.
- **Do** state the topic of discussion as you begin. When you change the topic, make sure the student is aware of the new topic.
- **Do** repeat both questions and answers other students say. This will eliminate the need for the student to look around and try to follow the path of the discussion. I used to spend more time looking around the room for the speaker than actually following the conversation and was more frustrated when I looked to the instructor for clarification, only to see him nodding his head and agreeing with the speaker.
- **Do** ask open-ended questions to check for clarity. Deaf and hard of hearing students learn quickly the art of "social bluffing," which is the act of nodding one's head and copying facial expressions to pretend one is following the conversation. I bet you have done this yourself on occasion!
- **Do** pause occasionally to allow the student to process the information. I am often literally the last one to get the joke if it is spoken because I need a few extra seconds to process the words I hear.
- **Do** use shorter, simpler sentences if necessary.
- **Do** establish norms of having just one person at a time speak in a group conversation. You may have to monitor and periodically reinforce these norms.
- **Do** use gesture, facial expression and body language to assist with communication. The student is reading your whole person to understand the context.

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- **Do** be aware of fatigue. Listening or watching an interpreter all day at school is tiring. You are using both your vision and hearing but the student is relying primarily on vision. Even a student who depends primarily on hearing through his cochlear implant is working harder to process the sound into language.
- **Do** be patient and take time to communicate. Saying “never mind” or “it’s not important,” will cause the student to feel unimportant. When someone tells me I do not need to hear a movie or conversation because no one learns anything my response is always, “that’s for me to decide.”
- **Do** recognize that although we would like all students to advocate for themselves many deaf and hard of hearing students have learned it is easier to sit back in silence. You may have occasions when you will have to advocate for your students’ needs.
- **Don’t** cover your mouth or have anything in your mouth when you are speaking. Be especially mindful when you are reading from a book or standing near technology that may interfere with vision.



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- **Don’t** overly exaggerate or slow your speech at first. When you exaggerate your speech movements you look quite silly and are no easier to understand.
- **Don’t** shout. Not only will a loud voice increase distortion, but also it will change your facial expression so that you will appear angry.

- **Don't** assume because the student is looking at you and nodding his head he understands everything you're saying. Deaf and hard of hearing people have learned the art of "social bluffing."
- **Don't embarrass the student if you do catch him "bluffing," by making comments such as, "Why didn't you tell me you didn't hear?"** Sometimes we do not know what we do not hear and sometimes we are afraid we will aggravate the speaker by asking him to repeat every other word.
- **Don't** be afraid to make mistakes. Most deaf and hard of hearing students will appreciate the efforts you make to communicate.

Alternatives to face-to-face service



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The Internet was possibly one of the greatest inventions for the deaf and hard of hearing community. Until cyberspace the deaf and hard of hearing community had lived in relative isolation, being unable to use radio, television without captions, and telephones. Before Robert Weitbrecht broke barriers and unveiled the first teletypewriter (TTY) in 1964, deaf individuals who couldn't hear on the phone would travel across town just to look through their friends' windows to see if they were home. And if they were not, they would turn around to go home and try another time. TTYs, which became text telephones, brought independence to the deaf community, but they were still isolated by information that hearing people could access through radio, television, and word of mouth. The Internet changed this by leveling the playing field so that hearing, deaf, and hard of hearing individuals had equal access to *written* information. Unfortunately, YouTube and the

constant streaming of media have once again isolated the deaf and hard of hearing community due to lack of captioning regulations.

Communication and Deaf and Hard of Hearing Students



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In 2006 students at Gallaudet University, the nation's first deaf liberal arts college protested the appointment of a new president whom they felt did not represent adequately the student population. Watching the protest unfold, one could see how vastly different this experience was from the first "Deaf President Now" protest in 1988 (which led to the appointment of the first deaf president in the history of the university). In 2006, communication during the protest was less face-to-face and more through cell phones, pagers, blogs, and email (Hogg, et al., 2008). Hogg, et al., (2008) surveyed students, faculty, alumni, and staff who participated in the 2006 protest to determine how "computer mediated communication" impacted information during the protest, which lasted several months. The study found 98 percent of the respondents used some form of computer mediated communication that included Blackberries, Palm Pilots, cell phones, Sidekicks, stationary computers, laptops, and videophones. Text telephones had become a thing of the past.

While students continue to communicate electronically the platforms they use have changed. The Pew Internet and American Life Project surveyed social media and Internet use amongst teenagers and Young Adults. In their 2010 survey they found fewer teenagers

were blogging or commenting on blogs in 2010 than five years previously and more teenagers used social networking sites (SNS) as compared to five years ago. When teenagers and Young Adults did use SNS, they preferred to comment on their friends' pictures, post comments on a friend's wall, or send IMs through the site. They were less interested now than in the past in sending private messages or posting blog comments. More students than before also used SNS to share information.

In addition to SNS replacing text telephones, video relay services are now very popular, with different companies competing for sales. With video relay the user has a device that includes a webcam and screen. The user can make a direct call to another video relay user and have a normal face-to-face conversation. Or, the user can call a relay operator, who in this case is a certified sign language interpreter. The interpreter places the call and interprets the conversation between the deaf and hearing user. I have become a convert to video relay services. I had a video phone in my home for a few years before I gave up my text telephone and my CapTel (described below). I appreciate being able to see facial expressions to help me understand the conversation. Video relay allows the deaf person to use her own voice, which is how I make my calls. Video relay services are also accessible on the iPhone and iPad.

Another telephone communication option is the CapTel phone, which is popular with hard of hearing people who do not use sign language. Using speech recognition software, the operator repeats everything that is said in a conversation and the user reads it on a screen. The user can voice his own responses. Sometimes there are voice recognition errors, which may lead to confusing conversations.

With these new options, there is no need to purchase a TTY in your office, or to advertise on a brochure that you have a separate TTY line. Some schools with large deaf and hard of hearing populations do have a video phone so that students can call home independently.

School libraries and computer-mediated communication

As a school librarian you have technologies at your disposal to encourage on-line communication. Some schools subscribe to Blackboard, Moodle, Edmodo and other safe communication websites. Other schools have begun having students share resources on Google Docs. Look at what your school offers and think about how you might supplement learning by offering opportunities for students to learn through cyberspace. Keep in mind some of your deaf or hard of hearing students may not have the same reading and writing skills as your hearing students (Bowe, 2002). If you post instructions online, try to use language they will understand.

Librarian as Instructional Partner

“If the goal of inquiry is to involve students in authentic learning experiences and higher level thinking processes, collaboration is indispensable. Every member of the instructional team must be involved in helping students to acquire the content, skills, and habits of thinking that are involved in inquiry learning. Teachers, library media specialists, technology coordinators, and other school staff must work together to set goals, plan learning experiences, instruct students, and assess learning. Importantly, students are also part of the collaborative planning process.”

Harada, V. and Yoshina, J., Inquiry learning through librarian-teacher partnerships

Universal Design for Learning

Universal design was conceived as a way to improve living for the broadest spectrum of users. The architectural designs created had benefits reaching beyond the users for whom the changes were intended (Rose and Meyer, 2002). Examples of universal design are curb cuts and captioned television. Curb cuts were originally intended for wheelchair users but have benefitted strollers, bicycles, skateboards, and everyday pedestrians. Captioned television was intended for the deaf and hard of hearing population but is now used in health clubs and bars and encouraged for English Language Learners.

Universal Design for Learning uses the same principles as Universal Design. Rather than making one change for one student, teachers can consider how they might modify or

adapt a lesson to benefit all learners. Rose and Meyer (2002) use research as an example of Universal Design for Learning. Suppose the goal of a lesson is to teach research skills. You have a limited amount of class time to teach students how to locate information, verify validity, deep read for understanding, and learn how to take notes. Having students begin by freely searching for information and returning with thousands of sources will only lead to distraction and frustration, both for you and the students. Planning ahead by selecting specific sources or showing students how to limit their searches to student-friendly sources will benefit all students and lead to accomplishing the lesson's goal.

With Universal Design for Learning, having clear goals are of utmost importance. Is the goal of a research lesson to find an answer or is it to *learn how* to find an answer? Is learning how to ask deep questions more important than finding an answer to a straightforward question? How will you assess student knowledge? Asking all students to handwrite or even type a report will present challenges for students with fine motor difficulties, as well as students who are easily distracted or have language skills below their classmates. If the goal of a unit is to demonstrate knowledge, offering students choices in the medium they use to present their knowledge leads to all students having equal opportunities to demonstrate their strengths.

Offering choices will not benefit early elementary students in the beginning of the year, but after months of working with my first grade students and providing curriculum-based units using various technologies, students ended the year with an animal research report. Through discussions with the first grade teams, we agreed students were permitted to find information using a student-friendly database or a monograph, both of which they'd already spent time learning how to use. Some students chose to present their findings using teacher-prepared handbooks. Other students chose to work with me to prepare Power Point presentations. Students had choices and chose the methods most comfortable for them.

As we think about Universal Design for Learning, let us return to Eisenberg's theories of coordination, cooperation, and collaboration and see where they fit in your role as a teacher-librarian with students who are deaf or hard of hearing.

Coordination

Eisenberg (2003) describes the teacher-librarian's role during coordination as one who stays on the fringes of the class and provides suggestions rather than actively engages in the unit being taught. If your role is one of coordination, look at the curriculum and suggest websites, such as the Described Captioned Media Program or note taking templates that might help the deaf or hard of hearing student follow the lesson. All students of all abilities will benefit from captions and students might choose from different note taking templates.

Cooperation

Suppose you are sitting with the third grade teachers during lunch and you hear them discussing their American Indian unit. You might offer to teach note taking or look for captioned videos. Ensure that any videos you stream have captions. In the worst of situations you can provide a transcript of the video but this is not ideal as the student cannot read the transcript and watch the video. If the student has an interpreter, she can interpret the video but again, this is not ideal because the video may move at a pace faster than she can interpret. Additionally, you will need to keep some lights on so the student can see the interpreter.

With cooperation it is important to have a clear understanding of what you will do and what the classroom teacher will do. If you teach note taking is the classroom teacher willing to carry over your template to use in the classroom? Will the teacher require all students to use one method or will she allow choice?

Collaboration

Collaboration is just that: both the teacher-librarian and classroom teacher sit down together to look at the curriculum and discuss the information and literacy skills that would be necessary to meet the standards. They work together to develop a unit or perhaps a few units that would incorporate classroom learning and information and literacy skill (Eisenberg, 2003).

Collaborating with Teachers

Collaboration offers the best opportunity to be involved in the learning process from end to beginning. Yes, I did say end to beginning because the best way to teach through inquiry is through backwards planning. Keep in mind the theory of Universal Design for Learning as you discuss what the ultimate goal is of the unit of study. What does the teacher want students to know or be able to do at the conclusion of the unit? Work backwards to see how you might accommodate or modify the lesson so that in meeting the needs of deaf and hard of hearing students you are also benefitting all students. If one goal is to have students use an online graphic organizer, allowing older students to spend their time playing with the program's features (changing box shapes and looking for funny graphics) will not accomplish the lesson's goal. Be clear from the outset if the goal of one lesson within a specific time frame is to use the organizer to visually represent their thoughts about their chosen research topic.

Universal Design for Learning does not usually use the terms "accommodate" or "modify" because the idea is to consider how a lesson may benefit all students. However, to do so you may still have to accommodate or modify a lesson to meet the specific communication and learning needs of deaf and hard of hearing students.

Accommodations and modifying are not the same but they all "change the delivery of instruction or the conceptual difficulty and content of the curriculum, while still assisting the individual in learning in the least restrictive environment" (UIC, 2005).

Accommodations

An accommodation is “a change that helps the student overcome or work around a disability” (Supports, 2010). Providing captions for films accommodates students who are deaf or hard of hearing. Changing the seating in a classroom so the deaf or hard of hearing student can see both teacher and classmates is also an accommodation, as is keeping lights turned on so the student can see the teacher or interpreter and rearranging a classroom so the student is not facing bright lights. The lesson itself has not been changed but the conditions under which the lesson is presented have been changed to accommodate all learners.

Modifying a lesson

A modification is a “change in what is being taught to or expected from a student” (Supports, 2010). Modifications can be made to what a child is taught or how a child works in school (Supports, 2010). Providing a book with lower language for a deaf or hard of hearing student who does not have the same reading comprehension skills as his classmates is a modification. Always communicate with your student’s team if you have any questions about modifying a lesson.

Librarian as Teacher

“The relentless quest of the school librarian is finding the right book for each student, searching for the home-run book for every child, and keeping students reading book after book after book.”

Susan Vanneman, Keep them reading

Reading Promotion and Advisory

Deaf and hard of hearing students want access to the same reading materials as their hearing peers. What are some ways you might encourage readers to branch out and read quality texts that may not be as popular but are at their reading level?

1. Book talk, book talk, book talk

Oh, did I forget to tell you? Book talk! I found my niche as a book talker/storyteller within the teacher-librarian field. I promote books by reading from them, writing original book talks, and creating book trailers. I try to present book talks using multiple mediums and look for common themes in books that may appear at first to be unrelated so that students will feel they are hearing a story about all the books. Some students have checked out books I have book talked and returned them the next day having read only a few pages but the point is I piqued their interest and they were willing to give the books a try.

2. Teach students how to create book trailers

Our book trailer unit was one of the most successful units I taught at my elementary school. After a unit to help them understand book trailers and to create one as a class, I book talked new children's books to fifth grade students and gave them the option of working together in groups to create their own trailers. Students created storyboards, which they transferred to Power Point slides, saved the slides as JPG images, uploaded them onto PhotosStory, and created a movie with transitions and music. One group added a voice over. Because book trailers use different intelligences, some students put less effort into the unit than others, but by working as a group they were able to contribute based on their abilities.

Teachers were so impressed by how engaged their students were in this project that they took it back to their classrooms and offered it as an option for classroom book reports.

The best way to learn how to teach a book trailer unit is to create some book trailers yourself. I have created trailers using PhotoStory, MovieMaker, iMovie, and Animoto. There are other programs to explore, such as Stupefix and Photoshow.

3. Follow the book store design when you promote your books.

I bought shelf display units and freed up bookshelf space to display books cover first. Books disappeared quickly from the displays and shelves. We stored our early reader books alphabetically on a browsing cart. Our first and second graders knew exactly where to go to find their favorite books. Beginning chapter

books were housed in another display section. We did not level our books but teachers appreciated being able to guide their students to a selection of books that were right for them. One librarian in her building set up a coffee table display in an area with comfortable seating and filled the coffee table with their most popular oversized books (Vanneman, 2010). If you have assistants or volunteers ask them to help create enticing book displays to capture your students' attention.

4. Talk to students who come in your library.

You may be worried about initiating communication with a student who is deaf or hard of hearing, but do not use this as a reason to miss out on helping students find the right book. If she looks like she is lost, taking a long time selecting a book, or browsing in an area you suspect may be too easy or too challenging, tap her gently on the shoulder to get her attention and ask if there is a special book she is looking for. Ask her about her interests. Does she like realistic fiction? Fantasy? Nonfiction? If you are having trouble communicating by voice ask the student if you can use a pencil and pad. Students like to know we care and students who may be isolated by language will appreciate your reaching out to engage them in conversation.

5. Let students know you've read the book.

Students will ask me, "Have you read this book?" In my personal experience students are more likely to read a book if I have read it.

6. Ask students what they are reading.

On the other hand, look at what students bring into the library. Often students have their own books from home that they got from the bookstore or the public library. Take some time to talk to the students, ask them to tell you about the book and see if it fits into your collection (Vanneman, 2010). If the student shows that he is not able to read all the words (I will ask students to read a few sentences to me and ask them to tell me the meaning of different words) look for books similar to the one he has but at a lower reading level.

7. Purchase e-readers

While I still prefer the tactile feel of an actual book (I am one of those who will take time to feel the cover) e-readers have numerous benefits that we have only begun to explore. Our students today are naturally drawn to technology. E-readers have built-in one-touch dictionaries and text-to-speech features. Some e-readers, such as the Kindle, allow users to share books. If your budget allows, or if grants are available, purchase e-readers and promote them to all students, but emphasize how they might benefit students who are deaf or hard of hearing because of their built-in dictionaries. Teachers may be more willing to let students challenge themselves with a higher-level book if they promise to use the dictionary, and students may be more motivated to finish a book knowing they can look up words at any time.

Reading promotion in cooperation with the classroom teacher

In “Reading Workshop, the School Librarian’s Role,” Kym Kramer (2012) discusses the debate within hearing schools regarding the best way to teach reading: basal readers and a phonics approach or real literature and phonemic awareness. This debate continues within the field of deaf education, with some programs teaching through direct instruction and basal readers, leaving little school time for exposure to literature, and others embracing teaching through literature. Regardless of the instructional practice your school has chosen, you can still use your teacher-librarian role to promote good literature in the classroom.

Teachers often maintain their own classroom library but their collection may be less current and they may choose books from leveled catalogs with familiar series. You can direct teachers to other sources for reading materials that are within their budgets and still meet the curriculum’s needs. Kramer (2012) writes that the school library shouldn’t be leveled but teacher-librarians can help match the classroom reading levels with appropriate books.

Collaborative Learning: Professional Development for Teachers

Just as you can promote literature for classroom library collections you can also promote professional learning to teachers through a professional collection. Talk to teachers about their classroom reading strategies and look for books, journals, and websites that may benefit their learning. An appendix at the end lists journals, publishing houses, and websites.

You may also find helpful resources on my website, *Signs of Success Tutoring*, www.signsofsuccesstutoring.com. In 2011, after a few years directing a library and teaching in a hearing school, I followed my passion to focus on the literacy needs of deaf and hard of hearing students. I began by creating my website, which was originally intended to supplement learning for students I was tutoring. I realized I had the potential to reach a larger audience of teacher-librarians who might be looking for resources for their own deaf and hard of hearing student populations. I have added many links to helpful resources and will continue to update the website.

4 Conclusion

“This teacher would stand up and start speaking, and then all of a sudden, she would look at me and ask, ‘Can you hear me over there?’ I remember wishing the ground would just open up and swallow me. I found this really embarrassing. While she may have been concerned about me, I felt she was drawing too much attention to it in front of my classmates. I was always nervous about when she would do it again.”

Gina A. Oliva, Interview with “F91,” *Alone in the Mainstream: A Deaf Woman Remembers Public School*

In 2011 at least eleven schools for the deaf were being threatened with budget cuts or closure (NAD, 2011). In populous states such as California, Texas, or Florida, enrollment in state schools for the deaf was over 300 students (Moores, 2009), but in other schools across the United States enrollment had decreased. As state schools and self-contained deaf programs close students will be mainstreamed in their local public school systems. With over 5,000 students being reported as having cochlear implants and seventy-five percent of the deaf and hard of hearing students surveyed being educated in mainstreamed or self-contained public school classes it is likely you will have a student in your building with some degree of hearing loss. How will you meet the unique learning needs of deaf and hard of hearing students?

I have observed that my school library colleagues had few current resources to help them understand their growing deaf and hard of hearing mainstreamed student population. I have created this resource to help meet this need. The more you understand your learning community the more qualified you will become as an educator.

As you begin to understand what it means to be deaf or hard of hearing, as you begin to understand the challenges – and achievements – of deaf and hard of hearing students learning to read, as you begin to understand the unique challenges deaf and hard of hearing students encounter in a 21st century school library with technology that did not exist in years past, you will also begin to evaluate your own instruction. By understanding the concept of Universal Design for Learning you can envision a library and learning environment that meets the needs of all students.

ENGAGING DEAF AND HARD OF HEARING STUDENTS

There are a lot of “do’s and don’ts” in this book and I do not expect you to memorize all of them. But by familiarizing yourself and taking the time to know your students you can decide which suggestions and strategies best meet the needs of the students in your library and classroom. In the end, it is our sensitivity and understanding that students look for most.

“My fourth grade teacher was sensitive to my difficulties working in a mainstreamed environment. She often had special activities for me that would help me to express my creativity and my communication. She encouraged me to write a newsletter to share with my peers. I think she provided these activities to help me feel more included in the class and to make my peers more aware of what I had to offer and what I could contribute. Being in her classroom was like an oasis in a hard, uncaring, desert.”

Gina A. Oliva, Interview with “M85,” *Alone in the Mainstream: A Deaf Woman Remembers Public School*

Appendix: Websites, publishing houses, and journals

You will find most of this information, and much more, on my website:

<http://www.signsofsuccesstutoring.com/educator-resources.html>

Educational Technology:

Cochlear: Personal Audio Cable for use with Playaways

<http://products.cochlearamericas.com/support/cochlear-implants/personal-audio-cable>

Described and Captioned Media Program

<http://www.dcmp.org/>

Communication Technology

Video Relay Services

ZVRS: <http://www.zvrs.com/>

Sorenson VRS: <http://www.sorensonvrs.com/>

Snap!VRS: <http://www.snapvrs.com/>

Purple Communications: <http://www.purple.us/>

Captioned Relay Services

CapTel: <http://www.captel.com>

Sprint Relay Services: http://www.sprintrelay.com/sprint_relay_services/index.php

Cochlear Implants

Advanced Bionics publishes a book for young children to help them understand cochlear implants. This may be helpful if a student leaves school for a week and returns with a new implant.

http://www.advancedbionics.com/content/dam/ab/Global/en_ce/documents/candidate/AB_The_Adventures_of_Bionic_Buddy.pdf

Cochlear: <http://www.cochlearamericas.com/>

Websites about hearing loss

Hearing Like Me: articles and personal stories about hearing loss. The website is published by Phonak, a hearing aid distributor
<http://www.hearinglikeme.com/>

Hands and Voices: “What works for your child is what makes the choice right.” Hands and Voices is a clearinghouse of information and support for parents with children who are deaf or hard of hearing
<http://www.handsandvoices.org/>

American Society for Deaf Children: A “parent-helping-parent” advocacy network
<http://www.deafchildren.org/>

deafplanet.com: operated by the Canadian Cultural Society of the Deaf, this kid-friendly website has games, shows, information, and safe social networking
<http://www.deafplanet.com>

Books with deaf characters

Deaf Characters in Adolescent Literature: Dr. Sharon Pajka, Associate Professor of English at Gallaudet University, began this blog in 2007. The list is not in alphabetical order but there is a link to Amazon at the bottom of the page. Sharon also interviews authors and posts book reviews.

Although these books have deaf characters, most have reading levels at fourth grade or higher and are written by hearing authors
<http://pajka.blogspot.com/>

Publishing Houses:

Gallaudet University Press: <http://gupress.gallaudet.edu/>

Journals:

Journal of Deaf Studies and Deaf Education: “peer-reviewed scholarly journal integrating and coordinating basic and applied research relating to individuals who are deaf, including cultural, developmental, linguistic, and educational topics.”
<http://jdsde.oxfordjournals.org/>

ENGAGING DEAF AND HARD OF HEARING STUDENTS

American Annals of the Deaf: “scholarly journal and forefront of research related to the education of deaf people. Each April, a Reference Issue identifies programs and services for deaf people nationwide.”

<http://gupress.gallaudet.edu/annals/>

Odyssey: “Articles from a wide range of issues important to families of deaf/hard of hearing children and those involved with deaf education. Odyssey is published two times each year by the Laurent Clerc National Deaf Education Center at Gallaudet University and is distributed free of charge to members of the mailing list.”

http://www.gallaudet.edu/clerc_center/information_and_resources/products_and_publications/odyssey.html

Volta Review: published by the Alexander Graham Bell Association for the Deaf, which promotes an oral-only approach to language

<http://nc.agbell.org/page.aspx?pid=501>

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