Access and
Equity in
Deaf Education

ODYSSEY

ODYSSEY • CLERC CENTER MISSION STATEMENT

The Clerc Center, a federally funded national deaf education center, ensures that the diverse population of deaf and hard of hearing students (birth through age 21) in the nation are educated and empowered and have the linguistic competence to maximize their potential as productive and contributing members of society. This is accomplished through early access to and acquisition of language, excellence in teaching, family involvement, research, identification and implementation of best practices, collaboration, and information sharing among schools and programs across the nation.

Published articles are the personal expressions of their authors and do not necessarily represent the views of Gallaudet University or the Clerc Center. The Clerc Center includes Kendall Demonstration Elementary School, the Model Secondary School for the Deaf, and units that work with schools and programs throughout the country.

About the cover: Deaf Role Models, Deaf Coaches, and Deaf Mentors can be important resources in the language acquisition journey, modeling language and communication strategies to and for deaf and hard of hearing children and their families. Learn about one family's invaluable experience with a Deaf Role Model on page 24.

Cover photo by Kristen Stratton.

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CLERC CENTER NEWS

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Striving for Access and Equity in Deaf Education:
WORKING TO LEVEL THE PLAYING FIELD FOR OUR STUDENTS

"An equitable educator will acknowledge that just because it worked for me does not mean it works for my students. Passion for equity leads to a creative process of building a new educational system that works for all students and all educators all of the time."
~ Curtis Linton, *Equity 101 - The Equity Framework: Book 1*

As we head into a new school year, we want to turn our attention to the state of deaf education in the United States today. While we are in a better place than we were a few decades ago related to access and equity, the needle still isn't moving quickly enough for many deaf and hard of hearing students.

Consider the March 2023 Supreme Court case of Miguel Luna Perez, who was denied access to a qualified sign language interpreter in his local mainstream classroom and instead was assigned an educational aide who was not fluent in any sign language to try and convey his lessons to him. The damage of this decision only became apparent to Perez and his family months away from graduation, when Perez was told he was not qualified to receive a diploma. Perez and the school district settled, and, as part of remediation, he was able to attend the Michigan School for the Deaf at cost to the school district, receive instruction through sign language, and earn his diploma. This case is a prime example of the challenges we are experiencing in deaf education, for which access to high-quality resources is uneven across the board.

Marianne Belsky

Nicole Sutliffe

While access to educational resources becomes much easier to scale up through technology, including the recently released Clerc Center Online Community, this is only one part of the puzzle of what is truly needed. We need further dialogue on what access and equity in deaf education mean. Language access must be seen not only as an equity issue but as a right; language provides the foundation for everything else to come in deaf education. Access should not be defined by a provider of services or an education but instead by the person receiving them. Success should be determined not only by benchmarks for the completion of an educational journey but by the choices and outcomes available to deaf and hard of hearing students afterward when they go out into the world.

In this issue of *Odyssey*, authors share stories and experiences on a range of topics. The Equity in Deaf Education Team describes their fight for equity for all deaf students in the Los Angeles Unified School District. Cindy Camp highlights how accessible media benefits deaf and hard of hearing students both in the classroom and at home. Christy Barr shares hard-won lessons from her experiences growing up deaf. Petra M. Horn-Marsh, Adele Ann Eberwein, M. Diane Clark, and Ashley Greene discuss using guided viewing and fingerreading as literacy tools. Kristen Stratton discusses the importance and impact of Deaf Role Models on her deaf and deafdisabled sons. Kimberly Ofori-Sanzo discusses speech-language professionals working to ensure equitable language intervention. Check out these articles and many more!

Our 2024 issue of *Odyssey* will focus on language-rich environments in deaf education. Please see page 75 to learn more. Also, YOU can help us determine our 2025 theme. Scan the QR code at right to learn how!

—**Marianne Belsky** and **Nicole Sutliffe**
    Chief Academic Officer/Chief Administrative Officer
    Laurent Clerc National Deaf Education Center
    Gallaudet University

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Professional Development and the Ongoing Quest for Equity:

REFLECTIONS OF A 15-YEAR VETERAN IN DEAF AND ASL EDUCATION

By Sara Stallard

In my 15 years of teaching, I've participated in many professional development sessions in both K-12 and community college settings. I know that professional development does not always seem relevant to the realities of the classroom; however, I realize that I've had important professional development experiences that had a lasting effect on my teaching—all related to equity for deaf and hard of hearing students as well as for students in my American Sign Language (ASL) classes. I want to share some of these experiences—vital lessons that impacted my understanding of diversity, equity, inclusion, and anti-racism, and helped my classes become more welcoming and safer for students. I also want to share what I previously assumed, what I learned, and what I hope to learn more about as I continue teaching.

Advanced Placement Expectations

In just one weekend of specialized training for Advanced Placement (AP) teachers, I was disabused of the notion that AP courses are only for high-performing students. A better perspective may be that AP courses are ideal for students who want to get a head start on college-style learning and develop skills that they might not otherwise develop in high school. While AP courses create opportunities for students to earn waivers for college credits, some students will not earn exam scores that colleges accept. Nevertheless, all students may find the AP learning experience beneficial in that they learn what it might be like to take the subject in college.

I also had to unlearn the expectation that students had to prove themselves with good grades. Ultimately, it was up to me to advocate for underperforming students who had the motivation and curiosity to try my AP English Language and

Photos courtesy of Sara Stallard

Composition course. I still remember the student to whom I denied this opportunity, and I regret it immensely. He went on to thrive despite my contributing to yet one more barrier in his way. As a successful Black man working with university students in an East Coast university, he shows how wrong I was.

I began to reframe the AP experience as a "try college on for size before you get there" opportunity, during which students could develop their English composition skills using strategies that would ultimately help them in college,

even if they did not fully master those strategies while still in high school. I extended this new understanding to advocate for AP placement of several juniors who tested as upper elementary- to middle school-level readers during intake as freshmen or transfers but showed strengths in writing. I provided electronic versions of model texts so they could use built-in dictionaries or translation software to assist in their reading. I also emphasized the stages of the writing process to reduce risk-adverse responses, allowing students to let go

of the pressure to be perfect and instead focus on developing and refining their ideas. Other teachers provided encouragement and support in other classes. too. Sure enough, through a combination of our work, their own determination, and the support they got in their other classes, those students went on to thrive in the colleges of their choice despite the low reading scores they had at intake.

Trauma-Based Learning
I used to think I was an easygoing teacher because I only emphasized

three rules in my classroom: 1) No cussing (specifically the F bomb); 2) Bring your own pencils; and 3) Put your backpacks on the floor. Everything else was already school policy or addressed as needed. I figured why add more rules? I didn't want hassles or power struggles, and I thought that this was reasonable. However, after a professional development session on trauma-based learning, I realized that I might be treating my students inequitably.

For some students, I learned, backpacks might contain their most precious items. They shouldn't have to risk others stepping on and damaging their belongings. Of course I still didn't want them to keep their backpacks on their desks because this obscured line of sight when holding discussions in ASL and because some students would try to use their backpacks as pillows. So, after that professional development session, I stopped insisting they put their bags on the floor, and I set up an empty bookcase in the corner for them to use instead.

As for pencils and other school supplies, I was surprised to learn how unfair I was in expecting all my students to have the same level of preparation. Students might come to school from homes in which supplies were not provided or maintained, or students might have specific learning disabilities affecting executive functions. Why should we inflict shame on those students for not having what they needed? Our priority should be in ensuring they feel comfortable and safe so they can focus on learning instead of scolding them and singling them out for

negative attention at the beginning of class. Even if this only applies to one student out of an entire class, that student should feel a sense of belonging, the same as all the other students.

Another trigger for trauma can be the choice of topic. We do not always know what kind of family or home environment students experience. For example, if students come from families experiencing homelessness or poverty, discussions about holiday traditions or feasts can be distressing, as can discussions about living spaces. For deaf and hard of hearing students who come from homes in which ASL isn't used regularly, discussions about what they did over the summer or winter break can be depressing because these students may

experience isolation, even when trying to have a good time on vacation with their families.

Discussions about family trees or social roles can also be problematic when deaf and hard of hearing students are left out of conversations about family matters at home. Some students do not know the full names of their own parents or other relatives or even how their relatives are related to them.

Instead of focusing on topics that involve their families or homes, I found I could choose topics that focus on students' own thoughts and feelings. I changed my focus: I asked students what their goals were, and I encouraged them to visualize themselves in the future. When discussing social structures, I gave options, such as allowing students to choose between their own actual family experiences or those they may have seen in the media. Teachers should not insist that students discuss their own personal experiences.

Students with Autism Spectrum Disorder

One year, after an influx of students with autism spectrum disorder, I was part of a special professional development session focused on working with students with this condition. We learned how the brain works when it observes other people and their actions. We also learned how the brain identifies and understands the feelings of other people, and that this is an area of function with which people with autism struggle.

This made me think about how to make my lessons more equitable for those of my students on the autism spectrum. They did not readily relate to discussion about character development in literature, but I discovered that one student really loved animals and another loved video games so I was able to use those as loci for discussing characterization. During my poetry unit, another student showed a fascination with the logic of structural rules governing poetic forms and the "tricks" involved in using figurative language so I made sure to focus on this instead of emphasizing analysis of emotions.

Intersectionality Training

One summer about five or six years ago, a schoolwide professional development was held on intersectionality. This revealed something different than what was intended. We were asked to draw maps of our different identities. The goal of the exercise was to note our different identities and discuss how they interacted with each other. At my table,

Below: Teachers from MSSD's English Department participate in a professional development activity during the summer of 2012.

the White people, including me, readily drew maps. The two people of color sat motionless. None of us White people noticed this until it was time for discussion. Then we felt a mixture of embarrassment and consternation as the two people of color explained.

They said they didn't feel comfortable revealing this information about themselves, that they didn't feel obliged to set themselves up for comparison. One of them told us, "Look at how fast you all bent to the task, eager to identify yourselves … you have no fear of being judged, you're confident …." The other said, "Yes, you didn't even notice we were not doing our maps …." The gist of what they told us was that this was not a safe space for them. This discussion taught me not to assume that everyone is willing to reveal personal information about themselves, and, most important, that we, White people, should not expect people of color or other marginalized peoples to feel they have to explain themselves to us.

In the years that followed, I've been working on understanding how people may respond to racism, especially systemic racism, as well as the efforts to dismantle racism. I've read books— *White Fragility, Me and White Supremacy, Nice Racism*, and *The 1619 Project*—and sought out anti-racist training workshops. I now realize how naïve so many White people, including me, were. We should not expect people of color to undertake the emotional labor of helping White people understand what it is like to be a person of color in the United States.

Universal Design for Learning

The concept of Universal Design for Learning has been around for a good while now. Early in my teaching career, discussions about this centered around

Below: A wall in Stallard's classroom is covered with large index cards on which students wrote and color-coded essay prompts related to the diaries they were reading. Post-It notes indicate student selections for prompts to which they planned to respond (Spring 2013).

Above: Students pose in front of the National Archives on a field trip (Spring 2013).

planning lessons to be inclusive of students' learning styles and ensuring they had images and videos to reinforce printed texts and that they also had multiple ways to express themselves.

Over time, Universal Design for Learning expanded to include digital learning and technological accessibility (e.g., text readability, image descriptions, captions for videos, transcripts for audio). I focused on adapting texts and differentiating materials for my high school students. I also gave workshops on how to support literacy instruction for struggling readers. When I began teaching in community college, the COVID-19 pandemic was raging, and education was fully remote. I took courses focusing on Google tools through an online university and obtained certificates in online expertise at both colleges where I teach.

Thanks to this ongoing professional development, I feel confident that I can create meaningful learning experiences for deaf, hard of hearing, and hearing students in both ASL and English. I can create discussion threads, quizzes, and exams using ASL video; I can offer transcripts in ASL gloss; and I can ensure information is chunked and scaffolded, that text is reflowable, resizable, and readily translated or read aloud using the built-in translation and text-to-speech features in the learning management system.

Relevance for Learners

I have also focused on ensuring learning experiences are relevant to learners. The college where I teach and work is committed to equity as articulated in its mission, vision, and values statement; its diversity, equity, and inclusion statement; and as demonstrated in its various programs. For example, I recently completed the year-long Courageous Leaders Academy program for faculty and staff that focused on developing cultural humility; understanding foundational aspects of diversity, equity, inclusion, and anti-racism; identifying implicit stereotypes; and addressing microaggression, disrupting systemic oppression, dismantling White privilege, and implementing courageous conversations. Our largest ethnic demographic is Latino, at over 40 percent; White students are just below 40 percent, and other ethnicities make up the remaining 20 percent.

I strive to include considerations about who my students may be and how I might make the lessons more meaningful for them. This can range from simple changes of the images in our lecture material to the selection of texts and topics that may include intentional discussion about diversity, equity, inclusion, and anti-racism. I use royalty-free image sources to find images that show a wide range of ethnicities and cultures in illustrating my lessons. I also rearrange content to support cultural values. For example, because I know Latino culture emphasizes family, I moved signs related to family and taught them earlier in my class. I moved ages and birthdays from ASL 2 to ASL 1 as well because families and friends

Below: Students proudly show their printed and bound copies of the poetry chapbooks they wrote and designed (Spring 2013).

often make plans around birthdays. I included gender neutral and affirmative signs for LGBTQIA2+ students.

When looking beyond conventional sources, ASL content can be amazingly rich in cultural diversity. For both my ASL and English courses, I include different signing styles through online video media, along with various topics that are emphasized among marginalized peoples. I include the landmark film *Signing Black in America* (2021) by Black Deaf scholars, along with videos of Black storytellers and performers. I include talk show episodes and panel viewings of Deaf Latino and Hispanic people and their discussions related to holidays, art, and business. I seek out spotlights and explorations of life through the lens of Deaf Asians and Pacific Islanders via various internet video series. I include commentary and skits from LGBTQIA2+ advocates and performers. I share comparisons of different sign languages from Native American and other Indigenous communities. I seek out ancillary material by Deaf content creators on social media.

As my curation of educational material evolves, my students' queries and responses hold the most weight in what I select for inclusion in my class. I get a lot of questions about vocabulary from my deaf and hard of hearing students, especially when they encounter multiple meanings and nuance in word choice. I also get a lot of questions about how to sign concepts related to cultural foods, clothing, and style. I once went off topic for an entire session because the students happened to be all female and they wanted to learn signs for makeup, such as nail polish, foundation, blush, lipstick, eyeliner, eyeshadow, mascara, and fake eyelashes, including magnetic eyelashes.

I have never had a problem

A Wish List for Further Professional Development

By Sara Stallard

In an ongoing quest for equity, I have compiled a wish list of professional development opportunities that I intend to seek out and that others interested in equity in the classroom might find useful.

- **Ungrading approaches**—I anticipate moving toward ungrading practices because I would like my students' work to be assessed more longitudinally; their skills should increase in proficiency toward the end of the semester. If they struggle with skills early on but eventually master them, why should they not receive full credit for this even if they made numerous errors previously?

- **Mental health and disability services**—I have noticed an increase in students self-reporting mental health issues or disabilities, or both. Some students seem to lack strategies for handling stressful learning experiences. In addition, students experience a huge lag in obtaining disability status that allows them to receive accommodations or support services. We need to close those gaps, and we need to remove the stigma associated with counseling and care.

- **Language deprivation**—Language deprivation needs to be recognized and clearly described as one of the causes behind marginalization of deaf and hard of hearing people. Do deaf and hard of hearing students have access to language that is accessible, interactive, and abundant? As a byproduct of a culture that traditionally refused to recognize the importance of ASL and Deaf culture, language deprivation needs to be emphasized in learning about and understanding Deaf cultural values. We need to ensure hearing ASL students know how they can serve as advocates and allies, especially when they become paraprofessionals, service providers, interpreters, or educators working with deaf and hard of hearing people.

- **Political advocacy**—I want to learn more strategies involving political leverage as I suspect we will need to become stronger advocates for high-quality public education in the United States as well as for specialized education. ASL courses for hearing students exist in many high schools and colleges, yet deaf and hard of hearing students continue to experience linguistic marginalization in public school settings, which may also occur in addition to marginalization related to race or other minority status. This is further compounded by the shifting landscape of education in this country, where political agendas impact education policy which can put all students at risk, especially when equitable practices get rolled back or removed altogether.

- **Open Education Resources (OERs)**—This is an area that I believe needs more attention in the education of deaf and hard of hearing students. OERs can reduce economic and racial inequities. Given that 70 percent of college students reported housing, food insecurity, or homelessness (California Community Colleges #RealCollege Survey 2019 report, p. 10) and that the high costs of textbooks were reported as the leading cause for students to struggle with their studies, OERs—and zero costs for textbooks—are major focuses in California's community colleges. I serve as the ASL lead in liaising with the central statewide committee responsible for disbursing funds for grants to develop OERs, and I plan to focus much of my professional development on OER-related topics for the next few years.

Above: Members of the Clerc Center's National Deaf Education Center cheer as they wrap up the webinar they hosted for parents and families (Fall 2017).

our disciplines. I was thrilled because this means I can view ASL-based content such as the National Association of the Deaf's "Real Talk, Good Action" panels as part of professional development. Recently I applied for and was awarded a small grant to fund travel abroad that enabled me to learn some *Lengua Señas Mexicana* (LSM) or Mexican Sign Language and to learn more about Latino culture. With this knowledge, I can introduce students to LSM along with ASL and help direct their interest toward resources and opportunities beyond my classroom.

I anticipate that professional development will continue to inform my work, especially in best practices for diversity, equity, inclusion, and anti-racism. I especially would love to collaborate more with other educators and community members who are part of the ASL and Deaf "ecosystems" as we continue to enrich the learning experiences of deaf and hard of hearing students, as well as the hearing students who will become allies, in ways that are truly equitable.

understanding signers with long colorful nails, and I once told other professionals that expecting short, unpolished nails could be considered racist and discriminatory toward women. Speaking up was not comfortable for me. Everyone in the group was White, I was one of only two women, and the other participating professionals were also my

colleagues, making the conversation feel riskier yet also more necessary. Two years later, I felt relieved and empowered when I saw the topic of fingernails being discussed among ASL content creators, and Black Deaf creators and deaf and hearing Black interpreters were blunt about fingernails being part of their identity.

Thanks to this ongoing professional development, I feel confident that I can create meaningful learning experiences for deaf, hard of hearing, and hearing students in both ASL and English.

Now and Beyond

I'm grateful I work in an educational setting in which faculty expertise is encouraged. Annual professional development requirements for full-time faculty include a mix of mandated topics and "flex" options that recently were amended to allow for up to 12 hours of self-selected material related to

Above: MSSD alumnus Emmanuel Perrodin-Njoku is flanked by his fellow MSSD alumni at a ceremony at the Rochester Institute of Technology, where he received the Outstanding Undergraduate Scholar award for being in the top 1 percent of his class. In this photo, they are fingerspelling M-S-S-D. Stallard also attended the ceremony, during which she received a certificate of appreciation as Perrodin-Njoku's Honored Teacher (Spring 2018).

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Adele Ann Eberwein, EdS, brings over 20 years of experience in the field of ASL and English bilingual education. Her diverse roles have included: adjunct instructor, bilingual language arts teacher, principal, K-12 mathematics teacher specialist, and elementary classroom teacher. As a lead mentor in Gallaudet's Center for ASL/English Bilingual Education and Research, Eberwein trained teachers from schools around the nation on methodologies and assessment tools for ASL/English instruction.

Early Exposure to ASL Yields Gifts
to Children Learning to Read and Write

By Petra M. Horn-Marsh, Adele Ann Eberwein, M. Diane Clark, and Ashley Greene

Deaf children develop an early skill of gaze that allows them to connect linguistic input to what is in their environment
~ Brooks, Singleton, & Meltzoff (2020)

Teaching deaf students how to read has been challenging and contentious. While a 2012 study (Easterbrooks & Beal-Alvarez, 2012) suggests that many deaf children can read at the same level as their hearing peers, an earlier frequently referenced study claims that the reading abilities of deaf students are typically at a third or fourth grade level (Marschark & Harris, 1996).

Unfortunately, teachers of deaf children can rely too heavily on strategies that were originally designed for hearing children. For instance, the National Reading Panel, which primarily focuses on hearing children and is often referenced in papers on deaf education (National Early Literacy Panel, 2008), suggests that there are five key skills that are highly predictive of children developing literacy:

1.   Alphabetic knowledge
2.   Phonological awareness
3.   Rapid naming of letters or objects
4.   Writing or writing one's own name
5.   Phonological short-term memory

The National Reading Panel's assertion that phonological awareness is a strong

Photos courtesy of Petra M. Horn-Marsh, Adele Ann Eberwein, M. Diane Clark, and Ashley Greene

Above: At the National ASL Round Table Conference in Salt Lake City, Utah, in 2019, Adele Ann Eberwein and Kester Horn-Marsh give an overview of the Signacy framework, highlighting Guided Viewing as one of the viewing elements.

predictor of literacy has been used to support the argument that a lack of phonological awareness or limited access to English accounts for deaf children having lower reading levels than their hearing peers (Kyle & Harris, 2010). As a result, many studies have focused on developing spoken phonological awareness, and various systems were created and implemented in classrooms with the aim of improving deaf children's access to spoken phonology (e.g., Cued Speech [Cornett, 1967], Visual Phonics [Krupke, as cited in Montgomery, 2008], and the Foundations for Literacy reading program [Lederberg et al., 2014]).

Few in deaf education questioned this assertion, even though the emphasis on spoken phonology was debated within the same report of the National Reading Panel that cited it as a critical precursor to reading (Garan, 2002). Further, a meta-analysis by Mayberry et al. (2011) found that spoken language phonology explained only 11 percent of the variance of reading proficiency in deaf readers, and other

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Ashley Greene, EdD, an assistant professor at Lamar University, worked in public school districts in Texas as a deaf education teacher with pre-kindergarten to high school students. She was part of a team that developed a Spoken Language Checklist that identifies and monitors developmental milestones for children, regardless of their hearing status, who use spoken English.

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research showed that spoken phonology is not necessary for deaf students to become skilled readers (Costello et al., 2021; Emmorey & Lee, 2021).

Instead, successful deaf readers appear to rely on other attributes and strategies. One crucial attribute is early exposure to American Sign Language (ASL) (Caselli et al., 2021). Deaf children whose parents learned sign language before they were 6 months old had vocabulary skills that were appropriate for their age (Caselli et al., 2021). Additionally, ASL seemed to serve as a bridge to achieving English literacy and academic success (Hrastinski & Wilbur, 2016). This may be partly because early use of ASL enables deaf students to activate a variety of strategies to successfully develop reading skills. These include:

- **Sign language phonology**—Just as auditory phonology is based on the smallest components of spoken language, sign language phonology is based on the smallest components of a sign language (e.g., handshape, location, orientation, movement, non-manual markers) (Petitto et al., 2016; Stone et al., 2015). As is the case with English—or any language—ASL uses these meaningless phonological elements and combines them using the linguistic rules to create units of meaning (McQuarrie & Parrila, 2014). Deaf children who are provided with full access to ASL at an early age acquire an understanding of sign language phonology, which correlates strongly with English reading proficiency (Caselli et al., 2021). Petitto et al. (2016) suggest that deaf children

may develop this visual form of phonology through their sign language proficiency that also includes receptive fingerreading and expressive fingerspelling. Access to a sign language phonology for deaf children provides the statistical regularities necessary to establish the brain's language areas (Kuhl & Rivera-Gaxiola, 2008). This statistical regularity primes the brain to be able to identify and combine the smallest components of language (whether signed or spoken) and make meaning.

Sign language phonology develops as the child sees the repeated patterns of sign language and associates them with linguistic meaning and the linguistic areas of the brain become functional (Petitto, 2014). In the case of deaf children who use ASL, this association also leads to the child's development of fingerspelling, which also promotes phonological awareness (Crume, 2013; Holcomb et al., 2021). Given phonological awareness is implicit in a child's fingerspelled words, ASL has now bestowed on the child at least two of the pillars of literacy—understanding the combination of small meaningless parts to make meaningful units and understanding the relationship of the fingerspelled alphabet to the printed letters of the written text.

- **Skill of eye gaze**—Additionally, deaf children develop an early skill of eye gaze that allows them to connect linguistic input to what is in their environment (Brooks et al., 2020). This use of what researchers refer to as *knowing where to look* or *attention* provides another foundation for literacy development as the child learns to identify statistical regularities

> Sign language phonology develops as the child sees the repeated patterns of sign language and associates them with linguistic meaning and the linguistic areas of the brain become functional.
>
> ~ Petitto, 2014

in adult signing. Knowing where to look effectively allows the child to have access to ASL phonology.

In the first six months of life, all infants begin to coordinate their eye gaze with adults. Then children and adults typically engage in joint attention (Lieberman et al., 2014). Brooks et al. (2020) note that gaze following is a critical way for children to input language, and this behavior develops earlier for Deaf children with Deaf parents than for hearing or deaf children with hearing parents. Brooks et al. posit that this difference in development occurs because Deaf parents actively and naturally engage their Deaf child's attention and know how to guide it.

Guided Viewing Framework

Instructional Level Expectations for Viewing

Guided Viewing Levels | Grade Level Goals

A, B, C, D → Kindergarten
E, F, G, H, I, J → Grade One
K, L, M → Grade Two

Above: Within the Guided Viewing Framework is a series of video viewing levels within each grade viewing level. The grade levels are continuous, and the viewing levels are intended not to be fixed within each grade level as students display a wide distribution of viewing skills.

Deaf parents pause in their visual linguistic input, allowing their child to attend to the object in question before they engage with the child with information about the object (Lieberman et al., 2014).

Therefore, when Deaf children with Deaf parents arrive at school, they know how to manage attention and participate in turn taking in the classroom (Singleton & Crume, 2022). This ability contrasts with their deaf peers with hearing parents who seem highly distractible not only due to their diminished language but also due to their parents' lack of understanding of how to develop and train their attention. In fact, deaf children of hearing parents tend to show delays in the development of effective eye gaze (Cejas et al., 2014; Tasker et al., 2010). Consequently, teachers must first teach these students how to attend to the signer; they should not assume that watching the signer in

order to understand what is being said will occur automatically.

- **Skill in viewing**—Viewing ASL videotexts is one of the components of bilingual literacy instruction. In *viewing*, which promotes sign language phonological awareness to build deaf students' language and literacy skills, students watch videotexts of signers who use ASL signs, classifiers, visuospatial syntax and phonological structures, and fingerspelling. Fingerspelling in ASL has two forms: native signs, in which selected words are presented through fingerspelling their English equivalent; and non-native signs, in which a unit of fingerspelling has undergone a systematic change in meaning. Native and non-native fingerspelled signs may be viewed as part of the manual alphabetic correspondence between ASL and English as one of the components of reading and writing instruction (Crume, 2013). Students with

exposure to phonological aspects through print and access to language through sounds may also use manual alphabetic principle, but it does not act as the best predictor of deaf children's reading fluency. A recent study by Costello et al. (2021) has further demonstrated that skilled deaf readers do not rely on sound-based phonological processing.

Importantly, teachers must first teach students how to view the signer in a videotext, how to understand the narrative, and how to discuss the narrative. Teachers must also teach students the story structure, finding explicit and implicit information in the narrative, making predictions

and inferences, and studying ASL signs, classifiers, visuospatial syntax and phonological structures, and fingerspelling. Holcomb et al. (2021) note, "The human brain segments the sequence of language, spoken or signed, into pieces of phonological units for the purpose of interpreting and connecting linguistic information to meaning. This process of segmentation during language acquisition occurs naturally in the brain if language input is early, accessible, and rich." Through this process, deaf children develop metalinguistic awareness; that is, they learn to focus attention on ASL as a language and consciously reflect on the nature, structure, and functions of ASL.

- **Fingerspelling**—Fingerspelling is a component of ASL that functions as a bridge to literacy (Stone et al., 2015). Fingerspelling bears a twofold role in ASL: 1) It renders a word in its written form, letter by letter, in the manual alphabet (e.g., H-O-U-S-E, M-O-U-S-E); and 2) it allows the presentation of fingerspelling as lexicalized signs that have undergone a systematic change in form and meaning (e.g., #O-F-F, #B-R-E-A-D).

Deaf children can recognize fingerspelled words before they can read printed words (Morere & Roberts, 2012; Padden & Gunsauls, 2003). Padden (2006) notes that deaf children's development of fingerspelling goes through two stages of acquisition, which she calls "learning to fingerspell twice." The first stage involves native signers who learn fingerspelled items as whole units (e.g., #B-U-S, #O-F-F). In the second stage, deaf children learn to segment fingerspelled words into individual handshapes that can be linked to English spelling as children start to learn reading and writing (Padden, 1998). Emmorey and Lee (2021) note the deaf readers'

sensitivity to orthographic codes in reading. While both deaf and hearing readers make use of common neural pathways when reading (e.g., recruiting the left inferior frontal gyrus and the visual word form area), successful deaf readers demonstrate

Importantly, teachers must first teach students how to view the signer in a videotext, how to understand the narrative, and how to discuss the narrative. Teachers must also teach students the story structure, finding explicit and implicit information in the narrative, making predictions and inferences, and studying ASL signs, classifiers, visuospatial syntax and phonological structures, and fingerspelling.

greater engagement of the right hemisphere for processing visual word forms (Emmorey & Lee, 2021).

While some studies suggest that improving ASL fluency can lead to better English literacy skills (Freel et al., 2011), more research is needed on that issue. Skilled deaf ASL/English bilinguals have been found to achieve higher academic success, but less skilled deaf bilinguals do not have the same level of success (Hrastinski & Wilbur, 2016). The individuals identified as "higher skilled deaf bilinguals" typically had strong mastery of their first language (usually ASL) from a young age and then learned their second language later (Hrastinski & Wilbur, 2016). These findings support Mayberry and Lock's 2003 study, which demonstrated that adults who acquire a second language later in life with near-native levels had acquired their first language early in life. The critical factor is not which language comes first or whether that language is signed or spoken but rather the level of access, exposure, and mastery that a child is able to achieve.

While teaching deaf children to read through systems that correlate visual systems (e.g., Cued Speech, Visual Phonics) has not been effective for many deaf children, early exposure to ASL seems to provide significant advantages. One of the main advantages involves training eye gaze and attention as well as the use of fingerspelling. These skills drive the development of deaf children's phonological awareness in sign language. As these young deaf children embark on their literacy journey in the classroom, these pre-literacy skills enable them to more easily succeed in learning how to read and write.

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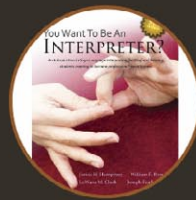
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Accessibility and Enrichment:

Captioned Media Promotes Literacy

By Cindy Camp

Videos, generally a fun and effective teaching tool, can be a source of stress for students who are deaf or hard of hearing—especially when shown in classrooms in which a handful of deaf or hard of hearing students find themselves surrounded by students who hear. In fact, for deaf and hard of hearing students, video watching may be a source of anxiety and frustration, and it may increase these students' feelings of isolation. The reason for this is simple: Most educational videos are not accessible.

There are several factors that contribute to this lack of accessibility:

- **Captions**—Even when videos are captioned, they may present challenges for deaf and hard of hearing students. Too often the captions are low quality. The font, the color, and the size make them difficult to read. Worse, sometimes captions are not accurate. The situation is especially acute with videos viewed on YouTube, particularly those videos that rely on automatic captions. Students are forced to try and make sense of flowing words, often without punctuation and often with serious errors.

- **Interpreters**—For students with an interpreter, videos may be presented with the expectation that they will be interpreted into American Sign Language (ASL). Done correctly, this can be helpful. A skilled interpreter, paired with a skilled and cooperative teacher, can give students access to the content of the video through the students' preferred language. However, if sound, spoken dialogue, and visuals proceed quickly, students may find themselves with visual overload, trying to process

Photos courtesy of the Described and Captioned Media Program

Left: Camp displays DCMP resources during a summer 2023 conference in Williamsburg, Va.

what is being explained in conjunction with looking back and forth from the interpreter to the screen. Captions, even if they are present and well done, add another level of information to be processed. The stimuli may overload the ability of an individual to process it.

- **Teachers**—Too often hearing teachers with general education backgrounds and overflowing classes of students have no idea what it means to be deaf or hard of hearing, let alone be a deaf or hard of hearing student in a classroom. Some teachers hand out worksheets and tell students to fill them in while they are watching a video (Mather & Clark, 2012). This is an

unreasonable demand for students who experience the world predominately visually.

In the worst case, a deaf student surrounded by hearing peers is expected to watch a video, read and process subpar captions, watch an interpreter, and answer questions on a paper about information to which they have limited access—daily. It does not have to be this way. Deaf, hard of hearing, and hearing students can all benefit from high-quality captions.

High-Quality Captions
Meeting the Challenge

The Described and Captioned Media Program (DCMP, *https://dcmp.org*), funded through the U.S. Department of Education and administered under the

National Association of the Deaf, has researched how to provide captions in the most accessible format. The standard closed-captioned format of all capital letters in a black box was found to be really challenging, especially for emerging readers (Udo & Fels, 2010). The most accessible style of captions is upper- and lowercase text, white letters with a drop shadow, over a translucent gray box (DCMP, 2021). Complete captioning standards can be found on the DCMP Captioning Key web page (*https://dcmp.org/learn/captioningkey*).

While captions are a great accessibility tool, they do not help young children who cannot yet read or older children who do not read on grade level. When these children are deaf or hard of hearing, this information can be

Above: Children can view accessible videos on their tablets if desired. **Below:** The first screen shows a video, *Meet the Helpers: Medical Emergencies—Paramedic*, while the second screen shows an ASL interpreter for that video.

presented in ASL. DCMP has always tried to provide videos in ASL, and hundreds of videos exist in our collection. Teachers and families can access thousands of videos through registering for a free account with DCMP at *https://dcmp.org/signup*. However, few of these videos are educational videos and few are produced in ASL.

For this reason, in 2021 DCMP's technology team began working on a way to display two videos in separate players, where one player shows the video and the other shows the interpreter signing. At the same time, the U.S. Department of Education recognized the need for Deaf children to have access to content in their native language and approved a pilot program. The result is a pop-up player that allows two video screens to be displayed and synchronized. One screen shows the original video, and the other screen shows the ASL signer. The window with the ASL interpreter can be resized and

moved around the screen to wherever the student prefers. The video can also be slowed by 50 percent or 75 percent, allowing students extra time to process the information if needed. Slowing the video does not distort the audio, so students who have residual hearing can use it.

DCMP uses native Deaf signers who provide ASL interpretation. This has multiple benefits, especially for deaf children who grow up in areas in which they do not see Deaf adults. By watching educational videos that are signed by Deaf adults, these children have access to native ASL users. Additionally, parents, teachers, and those who work with the children can use these videos to improve how they discuss concepts with them. These individuals can also see how a signing Deaf adult would explain a concept and that sign language, like spoken language, has regional differences.

DCMP takes additional steps to ensure accessibility. Captions are structured to be accurate, consistent, clear, and readable. Students can change the size, font style, color, and background of the captions. The presentation rate is appropriate for the grade level of each video. Videos with speech that proceeds too rapidly to be effectively captioned are rejected. Further, audio description is added for students who are blind or have low vision. A transcript of the captions and audio description is available for viewing and downloading.

The availability of the transcript, captions, and ASL interpretation provides students with a multimodal approach to learning language as well as to accessing information presented in videos. Teachers can use the transcript to read through the video and pre-teach new vocabulary words. Students can
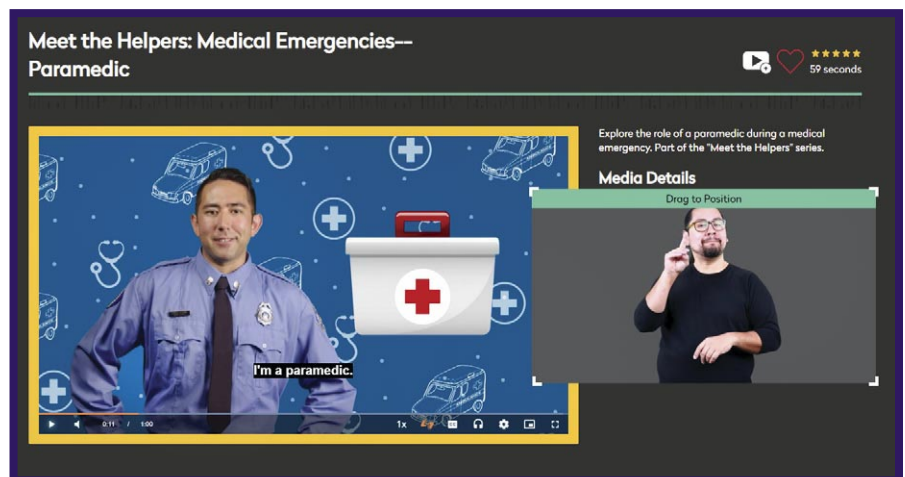
Right: Children can watch captioned movies, such as this one about dinosaurs, on a very large screen. **Below:** Anjel Piñero, the ASL signer for the "Alma's Way" series, is pictured here.

watch the video in ASL and then watch it again with captions. This approach allows students to build their comprehension as well as increase their literacy in written English.

DCMP Videos
For School AND Home

An article in the *American Annals of the Deaf,* "Developing Preschool Deaf Children's Language and Literacy Learning from an Educational Media Series," discusses the importance of early exposure to ASL through educational media (Golos & Moses, 2013). The study showed that students with even limited exposure to ASL benefited from watching educational videos that were signed. Their literacy in both ASL and English improved (Golos & Moses, 2013).

Recently, a teacher of the deaf/interpreter shared her experiences with a kindergarten student who we'll call John. John was limited in his use of both ASL and English. Although his initial language scores were those of an 18-month-old child, he was in a mainstream kindergarten classroom. The teacher/interpreter was hired to work with John as a communication facilitator and resource teacher alongside the general education teacher. At the beginning of the year, John did not engage much with his class or the curriculum. The teacher/ interpreter began to use DCMP ASL videos, choosing videos that mirrored the content that the class was covering. John became excited to learn new signs and

vocabulary. He was especially enthralled by videos such as *Because I had a Teacher,* in which he could see other deaf children like himself. In March when the class celebrated Dr. Seuss's birthday, the teacher/interpreter brought in DCMP's campaign "Read Captions Across America," and the entire class was able to enjoy five popular Dr. Seuss videos in English, ASL, and with captions. By the end of the year, John was testing at the language level of a 3.5 year old. His ASL vocabulary had increased significantly. He even began teaching his family proper signs. He was able to take spelling tests with his classmates and pass them with consistent scores of 90 and above. His parents signed up for an account with DCMP so John was able to watch videos at home as well as at school.

DCMP has videos on all educational topics that allow teachers and families to share knowledge in an accessible format with deaf and hard of hearing students, early learners through high school. It is not fair to ask our students to struggle as they try to make sense of what is supposed to be a seamless and even enjoyable learning experience. Students

are more able to reach their potential when they have access to the appropriate educational tools.
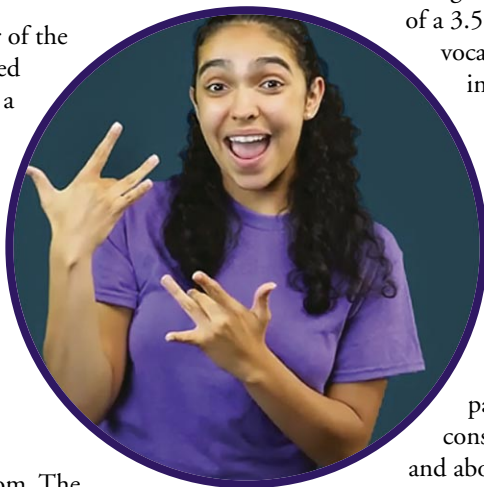
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Deaf Role Models
((Kiss Fist))

By Kristen E. Stratton

As a deaf adult who was raised using spoken English and who received no education in Deaf culture or American Sign Language (ASL), I was determined to raise my sons—one deaf and neurotypical and the other deafdisabled—differently. I wanted them to be "Big D Deaf*." I wanted to give them access to a visual language, a culture deeply rooted in history, and a beautiful and supportive community. The only problem was I couldn't give them that myself. I needed help. I needed to find a Deaf Role Model.

Truth be told, I had no idea there was such a thing as a Deaf Role Model until I began to interact with the Deaf community. Though I identified as "hearing impaired" growing up, used hearing aids, and voiced, I quickly began to assimilate into my newly found Deaf identity. Having not learned ASL until my sons were identified as deaf, I didn't realize what a beautiful community it was. I quickly fell in love with the language that was fully accessible to both of my Deaf children and to me!

We were referred to our family's Deaf Role Model by a local Deaf itinerant teacher in early 2018. We learned that her role would be to walk alongside our family and be a language model for our Deaf sons, our hearing daughter, and us as parents. She would encourage us, answer our well-meaning but sometimes ignorant questions, and help our sons grow to be confident Deaf adults.

Tina Hall, our Deaf Role Model, has been so much more than that. We consider her family and are truly blessed to know her. Tina is a graduate of Gallaudet University and a Gallaudet Hall of Famer for track and field. She has worked as a Certified Deaf Interpreter. She is patient, kind, enthusiastic, supportive, understanding, flexible, loving, and humble. She has visited our home once a week for over five years (with the exception of when our Deafdisabled son was ill).

Photos courtesy of Kristen E. Stratton

Working with William

On a typical day with Tina, she will warmly greet our family. Depending on how my Deafdisabled son is feeling, she and I will usually sign away about how our day went and catch up with each other. Together, we model reciprocal communication, and Tina always has eyes on my son to reinforce and connect with him. She works most effectively with William through play. Tina has been known to bake cookies and "bribe" his cooperation. She has also jumped on the trampoline with him while asking him questions and encouraging him to respond. They will also play pretend games, such as cooking or restaurant work, or just sit and color together. Tina meets William where he is at on each particular day and is never impatient. She also holds him accountable and sets high expectations for his behavior. She believes in William's ability to be a respectful and successful young man, and she doesn't let him think he can be anything less. I love her for that.

Working with Steven

As for my neurotypical Deaf son, Tina takes a more academic approach. She usually focuses on a particular skill she wants to develop that day. Lately, she has been working on improving Steven's expressive fingerspelling accuracy and speed as well as better developing his receptive language by reading fingerspelling at the speed of a fluent Deaf adult. Tina will also do skill checks with Steven's basic vocabulary by asking him how he is and what's going on in his life. When he is fatigued or sometimes just not in the mood, she is supportive and accommodating but also pushes gently so that Steven still learns what she wants him to that day.

Depending on the day, my hearing daughter, Elizabeth, will join in. Her receptive language has grown so much

over the years but, as with many bilingual children, she is shy about using her second language in front of people she doesn't know well. I hope that with time she grows to be a proud CODA/SODA (child of deaf adult[s]/sister of deaf adult[s]). I know she has it in her.

A Family Affair

My husband and mother-in-law also treasure Tina. Though they get the least amount of time with her, she greets them as warmly as she does the rest of us. We will all sit together at the end of

Above: Steven and William work with Tina to build language through interaction and fun, including jumping on a trampoline together and having conversations.

her sessions with our sons and just chat about life, family, pets, work, home repairs, travel plans, faith, gratitude, and dinner plans. We talk about it all. Tina has been an open book, sharing her life with us so generously so that we can benefit from her storytelling and her experiences. I am grateful my sons are her "mentees."

Left: Tina and William practice 1:1 correspondence using a visual aid while Tina signs the corresponding number in ASL. Below: Tina and Steven pose for a photo during one of their weekly sessions.

As for me, I could be classified as a mentee, too. Tina has helped me step confidently into my own Deaf identity. I look forward to our talks. Some days, I can feel my brain is fatigued and my hands do not flow as smoothly through the air as I know they can; my fingerspelling will be fumbled. She knows our family goes through a lot and that I am one tired mom and wife.

Our perspective as the mentees is different than hers will be as a Deaf Role Model, but I want to share what I have learned as a deaf adult who was not affiliated with the Deaf community growing up and also what I have learned as the parent of Deaf children:

- Deaf Role Models are valuable— their time, knowledge, and wisdom. Families should make every effort to pay their Deaf Role Model for their time or use an agency through which that time is subsidized. Advocate for your Deaf Role Model to be a service in your child's Individualized Education Program or to be paid for by another community-/state-funded disability services program. Deaf Role Models are worth it. It is an investment in

your child's educational and vocational future as well as in your relationship with your child by ensuring you can communicate with them effectively.

- Always graciously accept correction or feedback from Deaf Role Models, who are taking time out of their day to help you be better.

- ASL is valuable no matter how much hearing a d/Deaf or hard of hearing child has. Hearing aids break, cochlear implants come off at the end of a long day, listening fatigue is real, and a whole signing community awaits you if you just take that leap! ASL and ProTactile

ASL are accessible to our community in ways that spoken language just cannot be. I am grateful for the choices our Deaf Role Model has given us by showing us how to confidently and competently be Deaf.

Most of all, I have learned that it is okay to need help raising my Deaf children. While I want to be their support system and safeguard them from any harm, I don't know how to navigate life as a Deaf person as I grew up in the "hearing" world and largely functioning as a hearing person. As my own hearing loss progresses, I find that I, too, am being "role modeled" and learning to self-advocate. That lived experience is so valuable.

Deaf Role Models have an important role in helping families with d/Deaf or hard of hearing children to build effective and meaningful communication with each other and in offering them support—even for families in which a parent is deaf like me.

To learn more about Deaf Role Models, check out *https://national deafcenter.org/news-items/importance-of-deaf-role-models*.

The uppercase 'D' in "Deaf" is used to describe people who identify as culturally Deaf and are actively engaged with the Deaf community.

An Interview with a Deaf Role Model

While I could continue to go on and on in praise of Tina and the importance of Deaf Role Models for families raising d/Deaf and/or hard of hearing children, it makes the most sense to ask Tina what wisdom she would like to share as well as for a candid explanation of her experience as a Deaf Role Model working with our family.

KRISTEN: How would you describe your role as a Deaf Role Model?

TINA: My role is to encourage strong relationships between d/Deaf and hard of hearing children and their family members. I am not there to replace the parents but to help them build strong connections with their children.

KRISTEN: What are some of the things you do as a Deaf Role Model?

TINA: One thing I do as a Deaf Role Model is to help reinforce patience for parents and behavior for the kids. For example, when I first met you and Jon, you both had learned a little sign language and knew how to communicate a bit. The first things we focused on were facial expressions and setting behavior expectations with your children. I helped you [Kristen] and Grandma to really emphasize your facial expressions, which definitely helped open up communication with William. These skills and expectations helped you all to understand why William was frustrated and also allowed William and Steven to build a stronger relationship and connection. Starting with facial expressions and empathizing patience helps while parents are picking up the language and allows them to still interact with their child.

Another thing I do comes later, over time, as parents pick up more words. I help to support their role and encourage their kids to respect them. Learning to sign builds a strong relationship.

I have learned that I need to be very flexible in what I do in order to best support each individual family member in the way they need it.

KRISTEN: Would you explain a bit about your experiences working with our family?

TINA: First, I met with you and Jon to see what was happening with your children. I wanted to watch you with your children, to see how you made eye contact with them, and to observe your children at home. When I first met your family and your son William, he was shy. I worked to help him improve his interactions with other Deaf people. Now I see he is happy to have me come over. I have helped the whole family, including the grandparents, and I am there to support you all. I sit side by side with every member of the family, and I am very patient with everyone. I have seen a lot of improvement over the years. William doesn't feel lost in his own family. I can see that with my help, he really feels pride and happiness. I do the same for Steven. Again, I see lots of improvement.

KRISTEN: What would you say to parents who feel nervous or overwhelmed by learning to sign?

TINA: I would tell them to take things one day at a time and to try to be patient with themselves. Language is something that gets picked up over time.

KRISTEN: You are a Deaf Role Model to our neurotypical Deaf child and to our Deafdisabled child. How would a family find a Deaf Role Model, especially for their Deafdisabled child?

TINA: You should get a referral from someone in the Deaf community to help find a Deaf Role Model—maybe from an agency or a deaf school. For example, you found me through a referral from my friend who is a Deaf itinerant teacher and she interviewed me. I have worked with a lot of people in the Deafdisabled community as both a Deaf Role Model and a Deaf interpreter. I have also worked as a Deaf Role Model for people who are deafblind, deafdisabled, deaf autistic, and deaf CP [cerebral palsy]. It is especially important for the Deafdisabled community to have access to role models because their access to the Deaf community is sometimes limited but their need for community is just as important. Sometimes it takes the right person to be patient, to help stop behaviors, and to gain the attention of the d/Deaf or hard of hearing child, but it is so important. It is also especially important for a Deaf adult to be involved in a Deaf child's education because often those children are perceived as more delayed than they actually are based on a language difference.

KRISTEN: Did you have someone who was a role model for you as a Deaf child?

TINA: I grew up oral at first. I was surrounded by audiologists and hearing teachers. I only had one Deaf person to look up to when I was little. That single person modeled language for my sister and me, and we picked it up quickly. That person was my role model until I was 15. Then I attended a Deaf high school and was able to be with other Deaf students. I am so grateful for that experience. Once I was around Deaf teachers, it absolutely changed my life. It made me want to be a Deaf Role Model and encourage that confidence and development of language in others.

KRISTEN: Do you have any last thoughts to share?

TINA: While most of the time the mother is the primary caregiver, it's also really important for dads to learn sign language as well. Both roles are equally important. Whoever is involved in raising that child, it is so important for them to learn.

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Supporting Deaf Students
Who Experience Language Deprivation

By Leala Holcomb, Hannah Dostal, and Kimberly A. Wolbers

Why do we see some older deaf students still learning to make letter-like shapes and writing simple phrases? This outcome often occurs when deaf children experience language deprivation and communication neglect. Humans around the world naturally learn language, but we require access to acquire language, especially during our earliest years, as babies and toddlers, before we even enter a school.

This is why some older deaf students encounter challenges with print literacy. As young children, these students have not had sufficient access to spoken language around them despite hearing aids and cochlear implants (Hall, 2017), and they have had limited or no exposure to signed language. These students have faced, and perhaps are still facing, language deprivation. As a result, they have missed opportunities to access information throughout critical times in their young lives. They have difficulty with receptive and expressive language and in learning to read and write. Often, these challenges exist throughout their education.

For example, a fifth-grade deaf student who experienced chronic language deprivation during his childhood may exhibit stymied development in vocabulary, syntax, and mental synthesis (Vyshedskiy, Mahapatra, & Dunn, 2017). These characteristics are not caused by deafness per se, but rather by a lack of exposure to an accessible language to stimulate and mediate that child's development (Cheng et al., 2019). Countering this circumstance can be accomplished through a careful design of the environment to make it fully accessible (Humphries et al., 2019). This entails having teachers, aides, interpreters, specialists, speech-language pathologists, and mentors who are committed to making language accessible by signing at all times. It also calls for using specialized receptive and expressive language strategies through frequent and meaningful interactions.

In our study, two deaf students—just emerging as writers, although they were already in upper elementary school—were immersed in Strategic and Interactive Writing Instruction

Photo by Matthew Vita, Laurent Clerc National Deaf Education Center
Illustrations courtesy of Leala Holcomb, Hannah Dostal, and Kimberly A. Wolbers

(SIWI), a program that provides tailored language support. Both students, who had no additional disabilities, had faced language deprivation since their early years and struggled with expressing themselves in both signed and spoken languages. However, within a single

Above: When deaf and hard of hearing children have access to individuals committed to signing at all times and a learning environment designed carefully to make it fully accessible, they are able to access language at critical times in their lives.

academic year of receiving SIWI, both students showed growth. One student, aged 10 years and 8 months, went from responding by drawing when asked to write at the beginning of the academic year to writing words and letter strings at the end of the year. The second student, aged 10 years and 11 months and from the same class, progressed from labeling a drawing with the initial letter during the fall to writing words
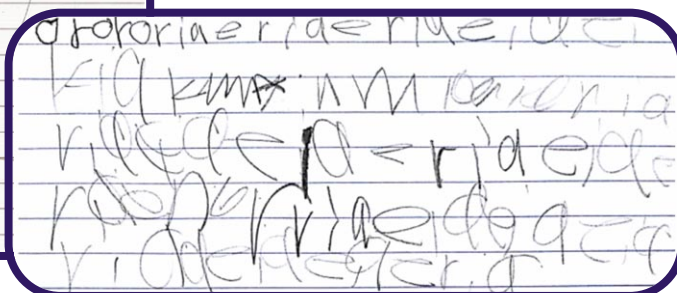
Kimberly A. Wolbers, PhD, is a professor and the coordinator of the deaf education program at the University of Tennessee. Her research primarily centers on designing, implementing, and testing the efficacy of writing and language instruction for deaf and hard of hearing children and adolescents. Wolbers conceptualized Strategic and Interactive Writing Instruction, an evidence-based instructional framework that is responsive to the unique language needs of deaf students. She is currently a Fulbright Scholar at the Centre for Deaf Studies in Johannesburg, South Africa.

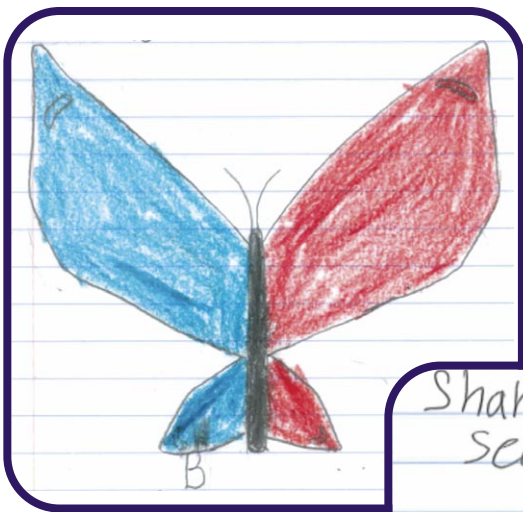The authors welcome questions and comments about this article at *lholcom5@utk.edu.*

Left: One 10-year-old student progressed from drawing in the fall to writing words and letter strings by the end of the school year while receiving SIWI.

Left: Another 10-year-old student progressed from labeling drawings with the initial letter of a word in the fall to writing words and phrases by the end of the school year.

toward language patterns (Holcomb & Wolbers, 2020). By helping students in recognizing and playing with rhyme and rhythm, educators foster their metalinguistic awareness. In signed language, rhyme and rhythm may be produced visually through repeated handshapes, movements, and locations, often accompanied by rhythmic body movement. For example, educators can encourage students to identify and come up with a list of words that share handshapes. The class can then select a few visually rhyming words to create a poem or a story.

These activities empower students to view language as a subject of exploration and creativity.

and phrases as school drew to a close in spring (Wolbers et al., 2017).

Educators must begin teaching students where they currently stand, regardless of age, language skills, or literacy abilities. By using effective strategies, a strong foundation in signed language can be cultivated. These strategies can enhance expressive and receptive skills, foster awareness of language (metalinguistic awareness), and support children's journey toward becoming effective communicators.

Language Play
A Step to Metalinguistic Awareness

Once students have developed foundational receptive and expressive skills, educators can start nurturing the students' ability to consciously reflect on their own language use. This conscious reflection—metalinguistic awareness—is a characteristic of all language users (Nagy & Anderson, 1995) and is facilitative of literacy development (Smith et al., 2013).

Metalinguistic awareness often begins with an enjoyable exploration of rhyme and rhythm, bringing students' attention

Educators have reported that students who experienced language deprivation respond positively to the use of signed rhyme and rhythm, leading to greater engagement with language and increased metalinguistic awareness (Holcomb et al., 2021).

Signed Compositions

A foundation in receptive and expressive language skills, coupled with metalinguistic awareness, enables deaf students to meaningfully engage in the composition process by creating signed videos (Enns et al., 2007). Texts can be composed in signed language in several ways. One approach involves using a camera to capture and revise signed expressions, mirroring the process of using a pen to write and revise written expressions (Czubek, 2006). Throughout the composition process, the class

Below: Holcomb demonstrates signed rhyme and rhythm with the repeated use of the Y-handshape.

YELLOW   COW   CHEWING   FOOLING AROUND
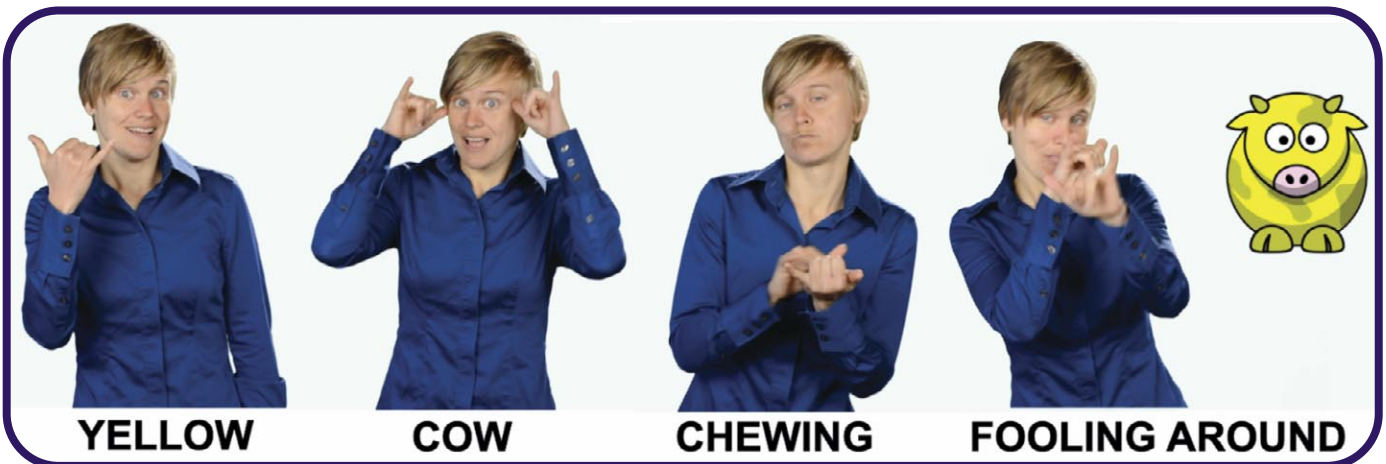
can collaboratively work toward a shared understanding of the message they wish to convey to their audience. This message is then scaffolded, revised, and refined to maximize clarity and impact. In the meantime, educators guide students through the critical thinking required for brainstorming, organizing, revising, and sharing published signed videos with real audiences (Dostal & Wolbers, 2016).

From Ideas to Publication

Educators should pick a topic with which students are familiar, both in terms of language and personal experience. This could entail a trip to the park or grocery store, preferably in the presence of language models. Pictures and videos should be taken during the outing to capture the experience; they can provide tangible resources for students as they prepare to narrate their experiences.

Depending on the students' language skills and the instructional language objectives, the composition process may involve creating a signed sentence, paragraph, or essay about an experience. The educator or student begins by filming themselves expressing their ideas and then invites others in the class to contribute to the co-construction of ideas by also filming their signed expressions. These video clips are then edited together to form cohesive expressions with connected ideas. The educator and students review the compiled signed expressions on video, discussing potential areas for reorganization, revision, or refinement to enhance clarity and impact. Revisions are carried out by rearranging or replacing video clips of signed words, phrases, or sentences and re-filming as necessary. The finalized video is shared with the audience. As students bridge their language skills with print literacy, they are likely to find the written composition process

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less daunting because they had ample experience in the skills of creating, organizing, and revising ideas through signed language.

Our research (see *https://siwi.utk.edu*) found that educators often feel pressure to focus on content and meet learning standards, reducing the time they can devote to responding to students' foundational language needs. However, with training that emphasizes language development alongside literacy development, even deaf students who have experienced severe language deprivation can begin developing as writers (e.g., through drawing, scribbling, producing strings of letters, labeling) (Holcomb et al., 2021). Working with those students necessitates specialized knowledge. Educators must acknowledge the root of their students' struggles (i.e., early life language deprivation), understand the connection between language and literacy instruction, and employ multilingual and multimodal instructional strategies in their teaching. Educators need to apply strategies during instruction that help them assess the level of support students need to understand others (receptive skills) and to express themselves (expressive skills). Educators can adjust the level of difficulty in their language use. They can offer:

> **As students master use and understanding of language, educators link these skills to print literacy skills.**

- High support by asking students to imitate
- Intermediate support by giving students response choices
- Low support by asking students closed- and open-ended questions

In addition, educators will want to enhance their students' awareness of the language they use through play, such as signed rhyme and rhythm. As students master use and understanding of language, educators link these skills to print literacy skills. Above all, educators hold high expectations for deaf students' potential to expand their communicative repertoire, while acknowledging the crucial role of teacher support.

Immersing Students in Language: Seven Steps for Teachers

By Leala Holcomb, Hannah Dostal, and Kimberly A. Wolbers

Educators who work with deaf students who have been impacted by language deprivation require sign proficiency and specialized strategies to facilitate language growth. Here, we present seven strategies—four targeting receptive skills and three targeting expressive skills—that can be beneficial for these deaf students (Cruz et al., 2013; Sultana, Wong, & Purdy, 2019). The strategies are not necessarily sequential but rather can be applied to suit the context and level of support required by each student.

Receptive Language Strategies

1. **Parallel talk and think aloud**—Educators can use parallel talk by describing the student's actions at any given moment. For example, while a student eats a snack, the educator can make eye contact and sign, "You are eating an apple." Following the initial observation, further language input can occur when the educator applies thinking aloud and adds, "I like apples, too. Apples are my favorite fruit. I wonder where I can get some. From a tree? From a store? From home?"

2. **Simple directions**—Since some students are accustomed to smiling or nodding their heads even when they do not understand, educators can sign simple directions, for example, "Bring me a pencil," to immediately assess understanding and determine the next communicative moves.

3. **Expansion**—This is done by repeating and adding to words initially produced by the student. For example, if the student says "tree," the educator extends the student's expression by signing, "Yes, your parents cut down a big tree yesterday." Through regular application of this strategy, students begin to internalize ways to express their ideas more comprehensively.

4. **Sabotage**—This strategy involves the educator purposefully making mistakes or omitting material required for an activity. For example, the educator might tell a student that the word "tree" is represented

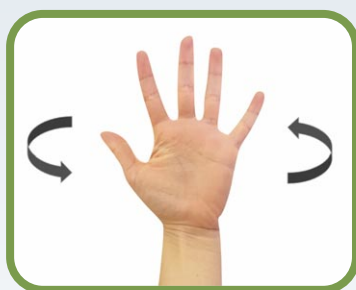| Imitating teacher's expression	Repeating teacher's expression	Responding to choices	Answering open-ended questions

High Teacher Support ————————————————————→ **Low Teacher Support**

by the sign for "dog." When the student notices the error and corrects it by responding, "Tree! Not dog!" the educator expresses affirmation. This tactic can heighten attentiveness to language and empower students to clarify.

Expressive Language Strategies

Expressive language strategies allow teachers to increase students' expression through the act of prompting students to respond. This may be done on a continuum of support as students are expected to respond with increasing independence (Roberts, Hensle, & Brooks, 2016). Teachers scaffold their lessons as students build skills, starting with the simple skill of imitation (high support) and progressing toward the more complex skill of independently answering open-ended questions (low support).

1. **High educator support: Imitation**—Students are asked to copy or repeat after the educator, not asked to express themselves on their own. For example, on a phoneme level, the educator raises her hand in the 5-handshape and asks students to copy her. Next, the educator may rotate the 5-handshape, producing the signed word for "tree," and have students do the same. In this way, students form words as they copy educators' expressions with attention to the specific handshape and movement. On a syntactic level, the educator may ask students to copy a whole expression as a way of rehearsing how signs may be produced to express the idea.

2. **Intermediate educator support: Response choices**—The educator provides choices in response to a question that students can select from and repeat. For example, an educator may ask a student, "Do you want to grow a big tree or a small tree?" Then the student can answer using the same vocabulary provided in the choice, perhaps responding, "A small tree."

Above: This illustration shows the signed word for "tree." **Top of page:** Levels of educator support for language expression are shown here.

3. **Low educator support: Closed- and open-ended questions**—The skills required for students to respond to closed- and open-ended questions are on the higher end of difficulty in expressive language. With closed-ended questions, students are expected to produce responses on their own that are usually shorter in nature and for which there are either "yes" or "no" or right or wrong answers. The educator may ask the student, "Do you want to leave the tree here?" or "What is this?" The student needs to come up with a response without teacher support by saying, "Yes" or "This is a tree." With open-ended questions, students are asked "how," "why," or "what" questions with the expectation of elaboration in their response. The educator may ask a student, "What do you want to do with the tree?" or "Why do you want to leave the tree there?"

If a student struggles with forming an answer to an open-ended question, the educator can help by rephrasing the question into a closed-ended question. If the student continues to struggle to respond, intermediate educator support can be provided through giving response choices.

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Right: Working with ASL literature can help students develop critical thinking skills and build a bridge from insights they glean with ASL to insights they glean through English.

Hands up for
ASL Literature in K-12 Education

By Brad S. Cohen, Pauline M. Ballentine, Ernest C. Willman, Brian W. Leffler, Holly V. Metcalf, and Ashley N. Greene

During the summer of 2022, Ashley Greene, a professor at Lamar University in Beaumont, Texas, and a co-author of this article, began a discussion on American Sign Language (ASL) literature with her doctoral students. The students, most of whom had backgrounds in K-12 deaf education or ASL education, explored what ASL literature means, how such literature can be identified and classified, how technology has changed its nature, and how it can be used in the classroom. The discussion was not easy, and a consensus was not reached. Pauline Ballentine, a long-time teacher and researcher and co-author of this article, was among Greene's students. After several weeks of daily discussion, we—teacher and doctoral students, all of whom helped author this piece—concluded that the problem lies partly with the educational system.

The educational system in the United States focuses little to no attention on ASL literature—a disservice, we believe, to deaf and hard of hearing children. The result is a lack of inclusion of important materials in K-12 education and a lack of tools to help teachers know how to use this literature in the classroom.

Several factors contribute to this lack of attention, including:

- An educational system that holds the belief that English is superior to ASL (Greene-Woods & Delgado, 2019) and, therefore, that exposure to English literature is more important than exposure to ASL literature

- An educational system designed to help deaf and hard of hearing children become "normal" (normally hearing, that is) people

*Photo by Matthew Vita, Laurent Clerc National Deaf Education Center
Illustrations courtesy of Brad S. Cohen, Pauline M. Ballentine, Ernest C. Willman, Brian W. Leffler, Holly V. Metcalf, and Ashley N. Greene*

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- Ignorance of culturally Deaf people's language and culture
- Ignorance of the depth, breath, and importance of ASL

Suppressing ASL in Class
Historical Roots

The assumption that English is superior to ASL can be partly traced to the years of oppression of deaf individuals, particularly through medical perspectives of what it means to be deaf (Ladd, 2003; Lane, 1992; Padden & Humphries, 1988). While this perspective has held sway for centuries, a notable shift occurred in 1880 when educators got together at an international conference in Milan, Italy, and proclaimed that spoken language should be the primary language of deaf children. Thus began a long era of emphasizing speech and lipreading skills in deaf education and the suppression of what we would today call a Deaf identity. This even led to the misconception persisting to the present day that the use of signed language in the classroom would hinder the development of English literacy (Simms & Thumann, 2007).

Today, the language in most classrooms for deaf and hard of hearing students is written and spoken English; most students spend the majority of their schooling learning English grammar, English literature, and English-based poetry as teachers and educational systems tend to disregard ASL grammar, literature, and poetry. In fact, any language that is not English, such as ASL, is labeled "foreign" even though many native ASL users are born to Americans and themselves American citizens (Hinton, 2016). Further, bilingual students—whether bilingual in ASL and English, or Spanish and English, or another language—tend to be treated as irregular and abnormal (Palfreyman, 2005). Too often bilingualism is regarded as a condition that teachers must "cure" (García & Kleifgen, 2010).

While deaf and hard of hearing students often become naturally bilingual (Scott & Dostal, 2019), most are tested, evaluated, and labeled in terms of their English proficiency with little to no regard for their proficiency with ASL.

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The authors welcome questions and comments about this article at *bcohen2@lamar.edu*.
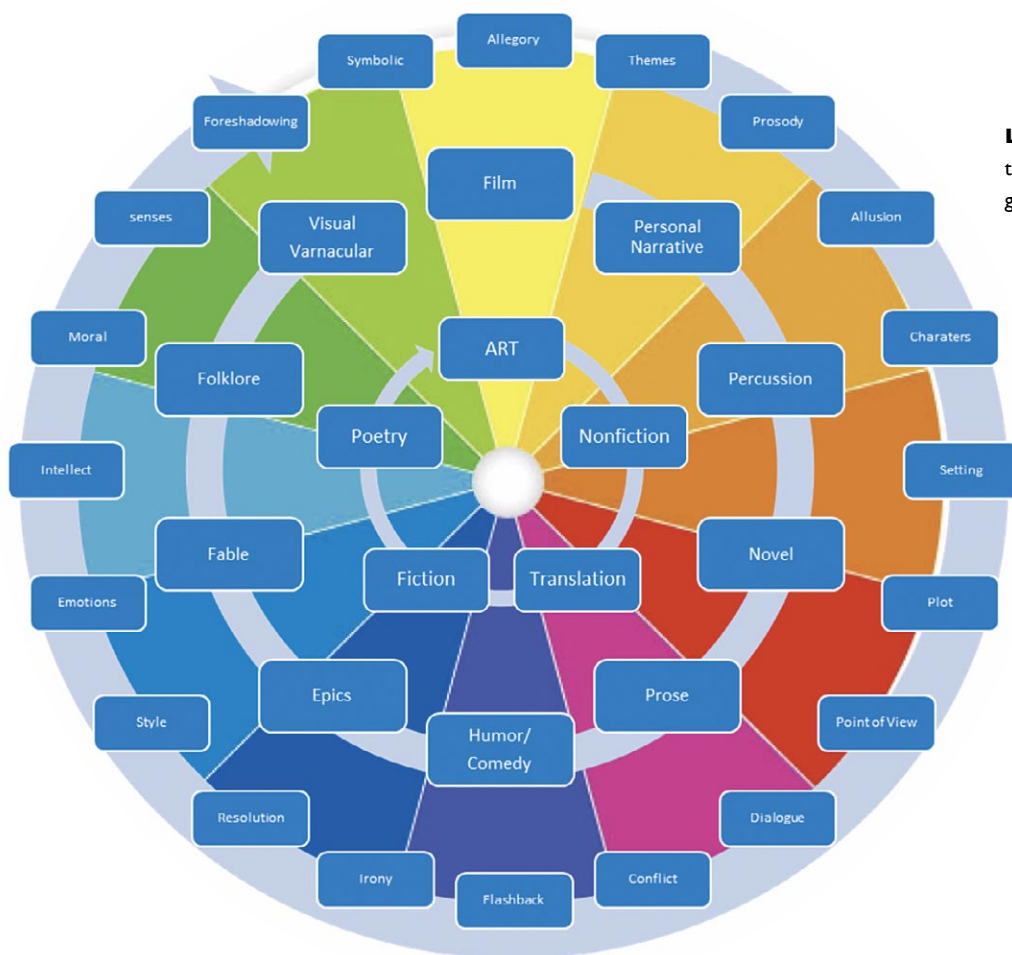
into deaf education assists in students' access to the curriculum; its incorporation is an equity issue.

In the same way hearing students are exposed to various kinds of literature in printed English, so should we ensure Deaf students are exposed to various kinds of literature in ASL. This exposure is especially important as literature—in any language—provides a basis through which many individuals begin to understand society and culture; it influences our attitudes, beliefs, and behaviors (Mounty et al., 2013). Literature is also a people's cultural and linguistic expression (Keshavarzi, 2012). For deaf education to remain fixated on only English literature suggests that the culture, society, attitudes, and beliefs of our deaf students are not a priority.

ASL Literature
Searching for a Standard

Literature serves as a means to foster language and conceptual growth, encourage creative expression, nurture the development of critical thinking abilities, and simultaneously cultivate a sense of pleasure and delight in linguistic expression (Ada, 2003). However, the very definition of ASL literature seems to be in question depending on who is involved in the dialogue. It is widely accepted that ASL literature is "poetry, stories, plays that reflect the bicultural experience of deaf Americans" (Byrne, 2013), but what of written works? And who decides?

The ability to preserve narratives within Deaf culture, transmit the collective Deaf experience, or share values held within the Deaf community is not a focus of K-12 teaching. Focused exclusively on English, educational programs concentrate solely on enhancing literacy skills in deaf and hard of hearing children (Marschark &

Knoors, 2012). However, Deaf cultural literacy is an essential understanding of values, heritage, and collective experiences that enable us, as Deaf individuals, to comprehend and interpret the connections between ASL literary works and our own lives (Christie & Wilkins, 1997; Ridloff, 2018).

There is a double loss as ASL, important in its own right, can also provide students with a strong foundation to transfer their linguistic competency in ASL to a second language (Chen Pichler & Koulidobrova, 2015). Working with ASL literature can help students develop critical thinking skills and build a bridge from insights they glean with ASL to insights they glean through English. Further, incorporating ASL literature

ASL Literature
Defining the Indefinable

Historically, the definition of "literature" has been wedded to preserved text, and in the years prior to filmmaking, preservation of signing was impossible. The only way individuals could experience ASL was through person-to-person contact. This changed in the late 19th century, and by 1913 deaf and hard
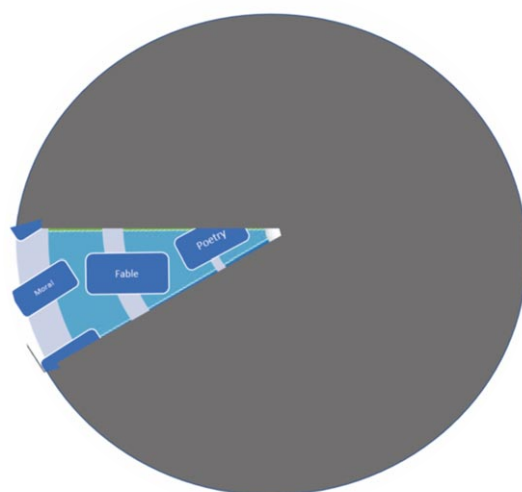
How? Where? Why? ...
Introducing the ASL Literature Wheel

By Holly V. Metcalf, Ernest C. Willman, Pauline M. Ballentine, Brad S. Cohen, Ashley N. Greene, and Brian W. Leffler

In an effort to help teachers present literary works in ASL to deaf and hard of hearing children, we developed the ASL Literature Wheel. This wheel allows teachers to identify categories of literature in a user-friendly format. It uses various colors to make the components interesting and visual.

The ASL Literature Wheel consists of three different areas—or layers—that guide the analysis and understanding of ASL literature. The three layers are: genre, form, and elements. Within each of these layers, additional categories are delineated. These categories include:

- **Genre**—The first layer, on the inside, is *genre*, and there are five categories: art, nonfiction, translation, fiction, and poetry (Bahan, 2006; Byrne, 2017; Leigh et al., 2022; Peters, 2000). Genre comprises the category the students identify first. For example, a piece will be categorized as "nonfiction" if it portrays real-life experiences or events.

- **Form**—The second layer, in the middle, is *form*, and there are 10 categories: film, personal narrative, percussion, novel, prose, humor/comedy, epics, fable, folklore, and visual vernacular (Bahan, 2006; Bauman, 2003; Christie & Wilkins, 1997; Peters, 2000; Rose, 1994). As students explore further, they reflect on the way the material is presented. Perhaps a piece already classified as "nonfiction" will be further defined as "personal narrative" if it is based on a personal experience.

- **Elements**—The third layer, on the outside, is *elements* and there are 20 categories: symbolic, allegory, themes, prosody, allusion, characters, setting, plot, point of view, dialogue, conflict, flashback, irony, resolution, style, emotions, intellect, moral, senses, and foreshadowing (Bahn, 2006; Byrne, 2013). This allows students to identify different literary elements presented in ASL literature. For example, perhaps the piece already classified as "nonfiction" and "personal narrative" will contain elements of "allegory" and "irony."

This approach allows for a thorough exploration of the ASL literary work and enables teachers to design effective lesson plans that convey the nuances and significance of different pieces of literature to students. It supports both teachers and deaf and hard of hearing students as they think about which genre, form, and elements to apply to ASL literature. It also allows consistent instruction on how to analyze ASL literature, and it fosters a dialogue between teachers and students, which then promotes their ability to create their own pieces of ASL literature.

We developed the ASL Literature Wheel in response to the lack of tools for teachers who want to incorporate ASL literature into the classroom, particularly in a classroom with deaf and hard of hearing children. Recognizing that many teachers do not receive training in teaching ASL literature, we came together as a team to discuss how to promote and support them. We agreed on three things:

1. We wanted a single tool that had everything in one place. We did not want educators having to come up with their own materials to supplement what we gave them.

2. We wanted to incorporate the idea that ASL literature is varied and automatically differentiate the material.

3. We wanted the tool to be user friendly and inexpensive.

Using the ASL Literature Wheel, teachers can categorize a piece of ASL literature based on its genre, form, and elements (e.g., they may categorize a piece as "nonfiction," "personal narrative," and identify elements of "allegory" within it). This approach allows for a thorough exploration of the ASL literary work and enables teachers to design effective lesson plans that convey the nuances and significance of different pieces of literature to students.

At this time, the utilization of the ASL Literature Wheel in K-12 educational settings remains unexplored. However, we hold the conviction that its application could yield substantial advantages for students who are deaf or hard of hearing. Presently, our research team is diligently engaged in a data-centric initiative aimed at assessing and scrutinizing the efficacy of the wheel as a pedagogical tool for imparting ASL literature, along with its consequential influence on student learning outcomes. Our aspiration is to shed light on its potential in enhancing literacy proficiencies among K-12 students, and we eagerly anticipate the dissemination of our findings within the academic community.

of hearing individuals were filming in sign language in part to preserve a language they felt threatened by the 1880 Milan conference (Veditz, 1913). Still, ASL literature was considered dependent on personal delivery (Byrne, 2013). At this stage, three elements determined if a work constituted ASL literature: a talented presenter, a strong narrative, and a responding audience (Bahan, 2006). The audience was as important as the presenter, as the presenter tailored the narration to the audience's response (Bahan, 2006).

Today, technology provides new avenues for the creation, preservation, archiving, and dissemination of ASL and ASL literature. These changes open up possibilities for ASL literature to reach wider audiences and contribute to an enduring legacy. Recording ASL literature ensures its longevity, allowing future generations to engage with and appreciate works from today's Deaf artists. This shift potentially brings ASL literature closer to the characteristics found in the literature of other languages (Hibbard, 2015). The role of the "teller" has become sometimes less significant. With the ability to capture and store ASL performances, the emphasis now lies in the nature and quality of the presentation and preserving these works for future generations.

ASL Literature Today
Classroom Integration Is Vital

With new definitions of ASL literacy growing and the body of recorded literary works resembling more closely that of other languages, integrating ASL literature into classrooms is vital. Literature serves as a platform for students to share experiences and enhance their language skills, providing opportunities for learning and language exploration (Bahan, 2006; Wilbur, 2000). ASL literacy and literature not only contribute to the development of critical thinking skills but also encourage creativity and offer a constructive outlet for expressing thoughts and emotions (Lederberg, Schick, & Spencer, 2013). Watching and analyzing ASL narratives and presentations in videos provides students with a powerful tool for their own storytelling, cultural exploration, and insights into different perspectives. By offering ASL literature within the classroom, educators create a rich learning environment that promotes language preservation and cultural understanding as well as nurtures students' intellectual and emotional growth.

Educators have begun to recognize the depth, breadth, and inherent importance of ASL and that it is on par with any other language regarding human expression. Progress has been made. More materials are available. K-12 ASL Content Standards have been developed to ensure deaf, hard of hearing, deafblind, and deafdisabled children acquire and learn ASL in much the same way that hearing children acquire and learn English (Laurent Clerc National Deaf Education Center, 2018). The goal is access and equity. However, within most classes for deaf and hard of hearing children, ASL literature is still not prioritized, and sometimes it is totally ignored. Much work remains to be done.
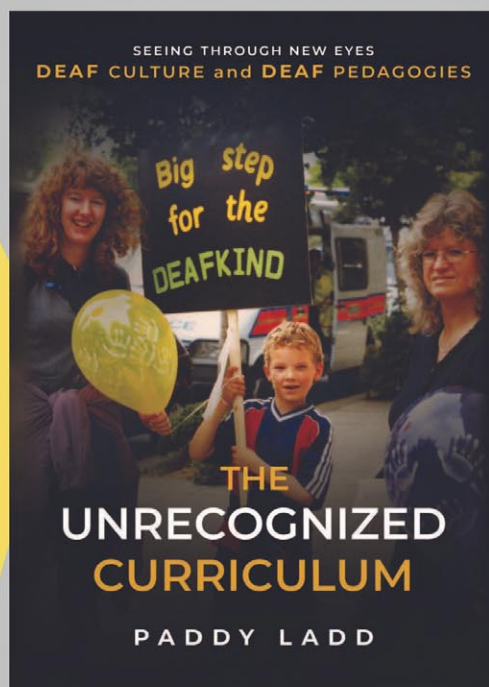
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The Equity in Deaf Education Team—**Amy Bogartz**, **Janette Duran-Aguirre**, **Mallorie Evans**, **Bianca Gerald**, **Richard Hall**, **Stephanie Johnson**, **Stephanie Komlos**, **Debra Lack**, and **Lauren Maucere**—is a group of Deaf professionals who got together to address the long-standing inequity and bias in the Los Angeles Unified School District. The team encourages and supports other school districts in the struggle to elevate language equity and language access all Deaf students deserve. The team welcomes questions and comments about this article at *DeafEdLAUSD@ gmail.com.*

Road to Resolution:

Forming a Team, Documenting Discoveries, and Making an Impact

By Amy Bogartz, Janette Duran-Aguirre, Mallorie Evans, Bianca Gerald, Richard Hall, Stephanie Johnson, Stephanie Komlos, Debra Lack, and Lauren Maucere

What led a group of professionals in the Los Angeles Unified School District to form an equity team, and how did the team uncover information, propose solutions, and get needed change?

In the spring of 2019, around the time of a six-day general teachers' strike, several teachers of the deaf compared notes about their classes and discovered that, despite working in the same district, their curricula, working environments, and resources were vastly different. Soon after, we—a group of deaf education professionals—formed the Equity in Deaf Education Team. Our goal: to bring needed change to the Los Angeles Unified School District and improve educational outcomes for Deaf* students.

We had long been aware of bias in our district. In 2016, a group of educators at Marlton School, the only district-run day school for the deaf, founded in 1968, shared with the superintendent, Dr. Michelle King, their concerns about the ongoing oppression, exacerbated by the high turnover of administrators who lacked knowledge of deaf education and American Sign Language (ASL). The teachers' union—United Teachers of Los Angeles—supported the plea for quality leadership. Despite these efforts, in 2018, another unqualified principal was assigned to Marlton. This led to protests and demands for the principal's resignation. The district promised to increase the pool of qualified candidates with ASL fluency, deaf education knowledge, and the required administrative credentials (Phillips, 2018).

In March 2020, schools closed due to COVID-19 and pivoted to online teaching. Several months later, George Floyd was murdered, fueling demands for systemic reforms. Our district held mandatory anti-bias training in an attempt to address and analyze deep-seated bias within educational practices. During our training, a district

Photos courtesy of the Equity in Deaf Education Team

Left to right: The Equity in Deaf Education Team—Lauren Maucere, Janette Duran-Aguirre, Mallorie Evans, Amy Bogartz, Debra Lack, Stephanie Komlos, Bianca Gerald, and Stephanie Johnson. (Not pictured: Richard Hall)

representative (Alison Yoshimoto-Tower, as part of the Los Angeles Unified School District's Anti-Racist/Unconscious Bias Training, 2021) said:

> **Discrimination** and **prejudice** are not limited to the color of one's skin. [They include] *language, which is directly tied to one's* **cultural identity.** *Our students, families, and staff are proud of their language. So, let's celebrate, embrace, and engage in conversations about the* **language diversity** *within our district. Striving to* **include and support** *those of all races, cultures, and languages, seeing these as* **assets,** *is among the* **more important work** *we do.*

These words became our guiding principle as they encapsulated the inequities we were attempting to address. The quote underscored the parallels between racism, audism, ableism, and linguicism. While racism upholds whiteness as superior to all other races, audism upholds hearing people as superior to Deaf people, and linguicism in deaf education upholds spoken languages as superior to signed languages.

Our Discoveries

Over the next few years, we gathered data. We collected anecdotal information about our education programs and stories from families, and we connected with outside agencies to gain insight into their experiences with our district's programs. We uncovered information that indicated systemic issues and biased policies that negatively impacted the success of our district's 2,100 Deaf students and their families, including:

- The Deaf and Hard of Hearing Itinerant Program determined Deaf students' least restrictive environment primarily through auditory-based assessment and students' hearing levels, which outranked other factors, such as language access, academic skills, and socio-emotional development, and used these to determine students' placement in oral, signing, or itinerant programs.

- Changing a student's placement from itinerant services to a sign language or spoken language special day program for deaf students was referenced as a move to a "more restrictive environment." Students who "failed" in the oral program were moved to a campus where students "relied on ASL" as a "last-chance" option.

- Itinerant teachers (serving 1,700 mainstream Deaf students in our district, aged 3-22, including students in private preschools, Head Start programs, special day programs for students with disabilities, non-public schools for individuals with exceptional needs, and Career Transition Centers) focused primarily on auditory skills, self-advocacy, and hearing technology.

- Deaf students with other educationally impacting disabilities who would benefit from ASL were often placed in programs designed for hearing students in which they did not receive consistent exposure to ASL.

Above: The Equity in Deaf Education Team, Jackie Goldberg, Scott Schmerelson, and other supporters cheer the passing of Resolution #029-21/22.

Deaf Community Tells an LA School Board: Serve All Deaf Students!

By Amy Bogartz, Janette Duran-Aguirre, Mallorie Evans, Bianca Gerald, Richard Hall, Stephanie Johnson, Stephanie Komlos, Debra Lack, and Lauren Maucere

On May 10, 2022, we—the Equity in Deaf Education Team, a group of professionals and educators, as well as parents and others from the Deaf community—rallied in front of the Los Angeles Unified School District headquarters wearing red shirts and holding signs demanding equity in deaf education.

We had worked hard for this day. A few years earlier, our team had uncovered issues and policies showing systemic bias against Deaf professionals and Deaf students who used American Sign Language (ASL), and we saw that this bias negatively impacted the success of our district's 2,100 Deaf students and their families. We documented what we found and shared these findings with Los Angeles Unified School District board members. Our findings became the framework for Resolution #029-21/22 to "Restructure Deaf and Hard of Hearing Education: Elevate Language Equity, Eliminate Bias in Deaf Education, and Improve Educational Outcomes." The goals of this resolution are to:

- Special day programs for deaf students, situated in various schools throughout the district, had skewed support; programs focused exclusively on speaking and listening skills were allocated more resources than programs that used ASL and English.

- The classes that used spoken language only were labeled consistently as "Listening and Spoken Language," while sign language classes were assigned various labels, such as "signing" or "Total Communication," and not the more accurate "ASL/English Bilingual."

- The spoken language program (for 130 pre-K-8 students at seven schools) was assigned five support providers; the sign language program (for 280 pre-K-12 students, including those on the alternate curriculum at nine schools) was assigned one support provider to three schools. The remaining schools and alternate curriculum students had minimal support.

- For both programs, the imbalance of support and resources between spoken language and sign language programs went unnoticed by school site administrators, who had limited knowledge of Deaf learners.

- The infant program brochure didn't mention ASL or sign language. It listed only "listening and speaking" and "educational audiologists" as the "optimal support" for Deaf babies and their families. If parents knew to ask for ASL services, only three of the 12 teachers were fluent enough to accommodate them.

- Ensure alignment of instructional services with the Individuals with Disabilities Education Act (IDEA), Section 300.324(a)(2)(iv), taking into consideration the child's language and communication needs and opportunities for direct communication with peers and professionals.

- Establish a committee of professionals in deaf education to work with the district's Human Resources Department on matters of recruitment, hiring, and retention.

- Centralize programs that involve Deaf students, professionals, and families within a Deaf and Hard of Hearing Education Department.

- Provide families of Deaf infants (ages 0-3) with complete, accurate, and unbiased information regarding language and program options.

- Establish ASL/English bilingual education as the early intervention standard for Deaf infants.

- Acknowledge ASL/English bilingual programs with the goal of fluency and literacy in ASL and English.

- Retain parental rights as outlined in the IDEA.

In an unusual move, the number of presenters before the Board was increased to allow for an even representation of those who opposed and those who supported this resolution. Our opponents said that the resolution was about removing parental choice; they also spoke of the inconvenience and burden on their families of learning another language.

Those in favor of the resolution shared their experiences with the deaf programs. As they did so, they exposed the ongoing prejudice toward Deaf people and the discrimination against ASL users as well as the higher value placed on listening and speaking over visual language. **Josh Oppenheimer**, the father of a Deaf child, noted that parents were receiving incomplete information. Speaking in support of the resolution, Oppenheimer stated, "Parents should have information, access, and support for the full range of educational models and be empowered to make this choice for their child and family." **Heidy Alveregna**, a parent, noted the bias that permeated the educational environment in our district, saying, "I will tell you firsthand, I have seen our Deaf professionals be treated so poorly. [How can I expect] my Deaf child to be respected in a district that does not respect its own professional peers?" **Dr. Ellen Schneiderman**, a professor at the California State University, Northridge and an expert on early language acquisition and literacy, seemed perplexed by those who opposed the resolution, saying, "I am unclear why there has been so much expressed fear surrounding language equity. The resolution promotes all language opportunities and equity in available resources."

The most compelling comments perhaps came from our Deaf students. **Veyra Campos** expressed her frustration, sharing, "Imagine your teacher tells you that your natural language is not welcomed … Imagine your teacher punishes you for using your natural language … Can you see yourself learning in such an oppressive language environment?" **David Sanchez** addressed the Board first in ASL, sharing, "I remember in preschool, if I signed, my teacher would hit me on the wrists. In my mainstream classes, I felt like I didn't fit in. I wanted to be in classes with other Deaf and hard of hearing students. I would break or throw away my cochlear implant [processor] so I didn't have to use it. Most people think that Deaf people who use ASL do not speak …." Sanchez then switched to spoken English, saying, "This is not true. Learning ASL has helped my English skills and speech skills. I have the option to sign with my friends and teachers, and I can speak with my friends and teachers if I want to. Knowing two languages is better than knowing one."

Long-time board member **Jackie Goldberg**, who co-authored the resolution, emphasized the importance of learning language during the first years of a Deaf child's life. Noted Goldberg, "We must not miss a critical window in the years before kindergarten to promote [Deaf children] acquiring language, whether it is spoken, or signed, or both."

Our efforts paid off; all seven board members voted "Yes," and the resolution to elevate language equity and restructure deaf education was passed. The message is clear: It is time to address pervasive inequities in our district's deaf programs and in deaf education nationwide. As board member Goldberg said, "We must move mountains to make sure that [Deaf children's] needs are addressed."

Deaf Education in an LA District

A SUMMARY

The Equity in Deaf Education Team looked into programs for Deaf students in the Los Angeles Unified School District. The following is a summary of what the team found:

- Prevalence of language deprivation among Deaf children

- Lack of Deaf professionals and Deaf representation in decision-making roles

- Lack of recognition of ASL

- An infant program biased toward the modality of listening and speaking English

- Lack of support and guidance for parents who wanted their infants educated bilingually with ASL and English

- No ASL specialist and limited ASL support for Deaf students in itinerant classrooms

- Non-deaf education teachers (i.e., general education and special education teachers) that lacked knowledge of Deaf students' language and learning needs

- No centralized support system

- Hearing levels as the primary determinate of student placement

- No support for ASL/English bilingual programming

- The district was not following the laws (i.e., SB 210, LEAD-K) that state Deaf children be language-ready for kindergarten at age 5

- The district was not following K-12 ASL Content Standards

- The district was not following the Deaf Child's Bill of Rights

- Teachers of the deaf had far fewer opportunities to connect, collaborate, and support each other than teachers in general education. Professional development was not focused on

best practices for educating Deaf students. Instead, teachers learned teaching strategies designed for hearing students and were encouraged to independently make necessary adjustments to meet the needs of their Deaf students. The itinerant program's meetings centered on general district policies and procedures and hearing technology.

A few teachers in the spoken language program expressed frustration with the number of Deaf students placed in their classes with low language skills, echoing similar concerns of teachers in the sign language program, illustrating that too many Deaf children were arriving to kindergarten without age-appropriate language skills. (This contradicted California law, SB 210, based on Language Equality and Acquisition for Deaf Kids [LEAD-K], passed in 2015, to work toward the goal of Deaf children entering kindergarten with age-appropriate skills in ASL or English or both.)

The experiences of parents and students also confirmed our findings and the consequences of systemic bias. Parents shared stories with us, showing the prevalence and varying levels of language deprivation within the district's programs. **Evelyn and Wilson Pena**, whose son had been deprived of ASL during his early years, said, "It wasn't until he was in third grade when they told us that he could go to a deaf school … Before, they were like, 'Oh, he's hard of hearing, he could hear a little bit, so he's not qualified to go into a deaf school.'"

We sought and received support from many organizations, including the California Educators of the Deaf; California State University, Northridge; the California Association of the Deaf; the National Association of the Deaf; the Disability Rights Center; the Greater Los Angeles Agency on Deafness, Inc.; the California School for the Deaf, Riverside; and, perhaps most consequentially, the American Civil Liberties Union. The organizations shared the stance that for the sake of Deaf students, our district must restructure its deaf education programs.

Some agencies, such as the Greater Los Angeles Agency on Deafness, Inc., and the California School for the Deaf, Riverside, had also experienced a shift in their relationship with our programs. **Deaf West Theatre** wrote: "In recent years, it

More on Resolution #029-21/22 to Restructure Deaf Education

Using the work of the Equity in Deaf Education Team, the Los Angeles Unified School District board members passed a resolution restructuring deaf education, including the establishment of a Deaf Education Department to centralize all programs for Deaf students: audiology, infant, itinerant, and special day programs. In addition, the resolution:

- Kept listening and speaking programs and services as an educational option
- Recognized ASL as a language of instruction
- Agreed to provide parents with all language options
- Implemented an ASL/English bilingual program in early intervention for Deaf infants
- Retained parental rights as described in the IDEA

has become harder for us to offer our services to the students because the administration is not accessible to us or the teachers in the district. It is apparent that the administration is not attuned to the needs of the students and that they do not come from a background of deaf education." This was not a surprise as deaf education has been historically controlled by monolingual-hearing individuals who promote a strong emphasis on the listening and speaking philosophy while dismissing the lived experiences of Deaf professionals, stifling the successful education of our Deaf students.

The Equity in Deaf Education Team met with **Jackie Goldberg**, a sympathetic school board member who has a Deaf niece, and **Scott Schmerelson**, a school board member who is our district's Special Education point person. Both Goldberg and Schmerelson recognized that the educational outcomes of Deaf students were unacceptable and used our data as the framework for a resolution to restructure deaf education in our district.

A few weeks before the Los Angeles Unified School District board meeting vote on the resolution, we held a virtual Town Hall open to the public with the California Educators of the Deaf, the Deaf Education and Families Project at California State University, Northridge, and Deaf Latinos y Familias. We shared the history of our school district's deaf education programs and our plan to restructure by centralizing programs into one department and to improve student and family access by adding ASL to the continuum of options and services. In addition, stakeholders were encouraged to sign and share a petition and to join a letter-writing campaign to the Board. We

used social media to share information, correct misinformation, and connect with the public. We reached beyond national borders, as the biases in deaf education are pervasive worldwide.

When the Los Angeles Unified School District board members passed Resolution #029-21/22 to "Restructure Deaf and Hard of Hearing Education: Elevate Language Equity, Eliminate Bias in Deaf Education, and Improve Educational Outcomes," the result was a victory for deaf educators, the Deaf community, and Deaf students. Still, the victory is only the beginning of our journey. Our hope is to address the inequities in deaf education not only within our school district but beyond for Deaf children around the world.

Authors' note: When we capitalize "Deaf" as we have throughout these articles, we are using the definition of the California Educators of the Deaf: "We understand that Deaf does not encompass all the lived experiences of Deaf individuals. These identities may change over time and place; some examples include Deaf, Hard of Hearing, DeafBlind, and Late-Deafened."

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Christy Barr, MEd, BCBA, is a board-certified behavior analyst and teacher of the deaf. She began her career as an itinerant teacher for deaf and hard of hearing students in Illinois. In 2014, she earned her BCBA and served as a clinician with Trumpet Behavioral Health providing Applied Behavior Analysis (ABA) services to children with autism, increasing their language and independence skills. Barr has since returned to the field of deaf education with the goal of bridging research from the fields of ABA and deaf education. She also serves on the board committee for Deaf Education Ohio. Barr welcomes questions and comments about this article at *christy.barr@ gmail.com.*

A Letter to Deaf and
Hard of Hearing Students:
The Hard-Won Wisdom We Earn

By Christy Barr

> "*Pick up a pen, start writing. I wanna talk about what I have learned.
> The hard-won wisdom I have earned.*"
> ~ "One Last Time" from *Hamilton*, written by Lin-Manuel Miranda

Dear students who are deaf or hard of hearing …

I would like to share 10 lessons with you that surely apply to so many of us who are deaf or hard of hearing. These lessons, learned from my own experience as a person who is deaf, have made me a better person, and I am hoping you will find them useful in your own lives as well.

1. **You have been excluded from conversations.** You have been left wondering what is happening around you and had to work through your frustration. This may build you into a great leader. You will ensure everyone on your team has a voice and has the opportunity to be heard.

2. **You have been unfairly accused of not listening to or ignoring people.** This will make you more understanding of others. For example, if an employee shows up late for work, instead of labeling that person "lazy," you will wonder what happened to delay his or her arrival. Further, if someone writes "I want publish book," instead of branding that person "unintelligent," you will wonder if the person uses English as a second language.

3. **You have followed others as a coping skill.** Your world is visual, and you watch what others do. For example, when other students are lining up for recess or for a fire alarm, or when they are doing the gym class relay, you watch what everyone else does and you copy them. This will not set you up to be a follower. Instead, you will realize your own power of seeing everything from a unique perspective. You will notice body language, environmental clues, and when other people are excluded. You will notice things that other people won't. This will make you an asset and a leader.

Photos courtesy of Christy Barr

4. **You constantly have to explain what you need and to fight for it.** This can be exhausting. You struggle with having to work so hard. You find yourself asking, "Why? Why do I have to go through all this effort? Always ask for accommodations in advance? Always ask for interpreters a month before a conference? Why do I have to search for special dates and times for interpreted plays? And why do I always have to educate an uninformed and sometimes rude public?" These experiences will not defeat you. Instead, they will allow you to become an activist and an advocate—both for yourself and others.

5. **You deal constantly with the unfairness of it all—the struggle, the lack of access, the fighting for accommodations.** No, it is not fair, but when you work 10 times harder than other people, you develop grit. Instead of accepting the status quo, you will develop a strong work ethic, exceptional organizational skills, and perseverance. You may learn to fight for other people as well, perhaps leading to a career as a lawyer, a judge, or a lobbyist.

6. **You sometimes "miss the whistle."** This may mean missing a soccer whistle during practice or a game, a lifeguard whistle at the pool, or the microwave timer when your food is done. Missing these and other sound-based alerts can be frustrating. However, being able to miss them can also be a benefit. When you are older and someone decides it's a good idea to give your child a whistle, the sound won't bother you a lick. Your daughter in sixth grade bangs away as she learns to play the xylophone? Totally fine. Your son in fourth grade brings home a school recorder? No problem. A screeching smoke detector is hurting people's ears during a drill? Not an issue for you. Each of these challenges can be met by taking out your hearing aid(s) or cochlear implant(s). Protected from the unwanted sounds, you're good to go. Remember to enjoy "the deaf benefit."

7. **You may worry about not hearing your children cry.** Someday you may have children. Worrying about not hearing them when they need help may cause you to become a "helicopter parent"—to ensure they are always in your line of sight so you can see that they are okay, to hover over them. Alas, no matter how hard you try, you may miss their crying. Another parent may bring your hurt child over to you, and you may feel like the world's worst parent. However, from this experience you will understand that it truly takes a village to raise a child; it's not all on you. A relative may show your child how to play ball, a neighbor may teach your child about responsibility when raking leaves, and another parent may help you when your child is hurt. This builds a support system for you and your family. You will assist others, they will assist you, and you will work as a community, a team.

8. **You are hyperaware of different environments—their benefits and drawbacks.** This is a mark of success. If you are hard of hearing or a cochlear implant user, you have already experienced struggles with listening in various situations. You already know that talking with hearing friends in a small room is much better than trying to talk with hearing friends in a noisy, dark restaurant or outside on a windy day. You know the difference between

the listening environment during car rides and in the library as well as between lunchtime and study hall. You know that lighting is important—whether for conversations in speech or for conversations in sign. Signers especially know the frustration of intrusive pieces that block visual space and the difference in communicating in darkness, diffused light, or light that flickers or comes with a harsh glare. This knowledge will make you aware of how environments impact other people and how different environments can change their behaviors. You may notice how a friend on the autism spectrum becomes overwhelmed with lights, conversations, and music at a school dance but flourishes during small gatherings in family homes. In the workplace, a supportive supervisor can change an employee from feeling like a failure to seeing their skills. As a deaf or hard of hearing individual, you have unique insight into matching environments to people to bring out their best and support their success. You know that some people shine in the spotlight, some people communicate best through writing, and some people build amazing contraptions. This skill is an asset to you as a leader.

9. **You are used to mishearing/misunderstanding hearing people and reading body language and facial**

expressions. This is a complex issue and it has progressive steps, all of which lead to outstanding critical thinking skills:

- *Mishearing people 1.0.* This experience provides you with scientific skepticism. You learn sooner, faster, and more deeply than most people to investigate questions related to what you are told. You ask yourself, "Is what I heard or read really accurate? Is there data to support this claim? Is the measurement they cite accurate?" You already know that sometimes results don't make sense, and you've learned to dig deeper. You already see the world like a scientist.

- *Mishearing people 2.0.* You are a "code breaker." All your behind-the-scenes efforts (e.g., reading context clues, body language, knowing the history of the person and their claims) have made you automatically think, "What sounds similar to/rhymes with the sounds I just heard or saw on the person's lips, and does it fit the context?" You fill in the gaps moment by moment, all while continuing to listen, pay attention, and adjust your understanding to what is being said. You are exceptionally good at figuring out what people are saying with limited information. You're like a detective, a spy, or a researcher. Most people cannot do this; they've never needed to. It's one of your strongest muscles to flex.

- *Mishearing people 3.0.* You can tell authentic people from fake people, truth from lies. You have the ability to tune out people's words and look at their body language and actions instead. You know more deeply than most people how actions speak louder than words, and you are less vulnerable to advertising and its gimmicks. Often people are inclined to believe information—and misinformation—just because it has often been repeated. Easily remembered slogans are repeated so often that most of us know some of them by heart (e.g., "America runs on Dunkin'," "You're in good hands with Allstate," and "Every kiss begins with Kay"). We are bombarded with advertising almost every moment,

even when we pump gas into our cars. With our ability as deaf and hard of hearing people to tune out unwanted noise, we can shelter ourselves from the claims of advertisers, and we may make more objective decisions.

10. **You will come to understand how the continuum of accessibility in society is similar to the continuum of credibility in research.** If you choose to go into the field of science or a similar field, you will learn through your courses how to analyze research articles and realize that there is a range in quality of research. This range of quality is much like the range of quality of accessibility. In one day, as a deaf or hard of hearing person, you move through environments that vary in accessibility. For example, accessibility may be near total with a friend who signs well or when using an FM microphone at a restaurant with a family member. However, the same FM microphone at a rectangular table with a group of non-signers may yield only medium accessibility. Attending a conference with an interpreter and having closed captioning on video clips may result in strong accessibility. Road trips with friends who don't sign, with the windows down, the music cranked up, and a profile view of the driver will yield very poor accessibility. Similarly, research, depending on how it's done, can yield strong, medium, poor, or very poor results. If research design is poor and the procedural integrity is low, the results are essentially meaningless. You understand this because you experience it through the varying accessibility you have in your own life.

While we—when we become adults—have a responsibility to make education more accessible for the children coming up behind us, we also have a responsibility to acknowledge both the difficulties and the triumphs— the pain and the gain—of being people who are deaf or hard of hearing. We live in a world in which accessibility is varied and sometimes poor. Still, the coping we do as deaf or hard of hearing children makes us strong, and figuring out meanings as we interact with people makes us caring and perceptive. Our experiences are valid and our emotions are raw. Sometimes life is hard and it hurts, but as adults we still do it. We do it because we want to be the person for other deaf and hard of hearing students that we wish had been there for us. **Thank goodness for us, and thank goodness for you!**

Kimberly Ofori-Sanzo, SLPD, CCC-SLP, BCS-CL, is the founder of Language First, an organization that raises awareness about the effects of late or incomplete first language acquisition and the importance of early, accessible language for deaf and hard of hearing children. She is based out of Vernon, Connecticut. Ofori-Sanzo welcomes questions and comments about this article at *kimberly@language1st.org.*

Speech-Language Pathologists and
Equitable Language for Deaf Children

By Kimberly Ofori-Sanzo

Jerry* is a deaf student in the third grade at his local public school. He has two cochlear implants, but he does not read on grade level, and he still struggles with spoken English. He began to learn American Sign Language (ASL) last year when weekly services from a signing teacher of the deaf were added to his educational plan. Now, his language skills in ASL are growing and his speech-language pathologist (SLP) is unsure what she should do. She is noticing more difficulty communicating with Jerry in their sessions and realizing that by ignoring his preferred and more accessible language, ASL, she is not providing equitable intervention services to Jerry. What should she do?

This SLP's dilemma is not uncommon. Deaf and hard of hearing children deserve equitable access to evidence-based interventions from well-trained staff (Hoskin, Herman, & Woll, 2023), and this of course includes the SLP. Trained to work with children who have language disorders and delays, SLPs follow a code of ethics to ensure culturally responsive care. In fact, embedded in our ethical principles is a requirement that we engage only in areas that are within our scope of practice and competence (American Speech-Language-Hearing Association [ASHA], 2016). When we do not speak the language of our client and cannot find a provider who does, (ASHA, n.d.a.) recommends we use an interpreter.

SLPs who work with deaf students find themselves in a unique situation as deaf

Photos courtesy of Kimberly Ofori-Sanzo

Left: Students practice communication skills on a class field trip to the local bagel shop.

children often use a different language than their SLP. Providing language therapy requires high levels of fluency in the language of the client (Hoskin et al., 2023). This language proficiency is necessary to implement interventions that meet the client's needs (ASHA, n.d.b.). However, few SLPs are native** signers, most SLPs are not fluent in ASL, and many SLPs prioritize the use of oral language over the use of signed language with deaf children (Sanzo, 2022). Additionally, to obtain an ASHA certificate of clinical competence, an individual must have sufficient speech and hearing skills. Thus, it is not possible for a deaf person to become an SLP. Indeed, Cripps et al. (2016) found that SLP graduate students felt unprepared to provide language therapy to deaf students in ASL due to a lack of training in their graduate programs. This insufficient training among SLPs highlights the importance of addressing the gap in education if they are to work with deaf children (Cripps, 2019).

In addition, there is an added complexity. Many deaf children do not acquire an oral language fluently from birth and begin to learn a signed language at an older age, usually in elementary school (Henner et al., 2016). Thus, the child acquires ASL as a delayed first language rather than as a second language (Boudreault &

Mayberry, 2007). While other bilingual populations may demonstrate language difficulties due to developmental language disorder or other diagnoses that impact language acquisition, deaf children may be unique in that they demonstrate language dysfluency in both signed and oral language as a result of not being exposed to any fully accessible language from birth (Hall, 2017).

Early language deprivation, a surprisingly common condition, presents a unique challenge for SLPs as it is not addressed in most SLP programs. Therefore, SLPs are not familiar with it. They do not realize that deaf children with language deprivation require explicit language instruction and intervention in both ASL and English, and that only practitioners who are fluent in ASL can break down the language for them piece by piece (Spitz & Kegl, 2019).

Additionally, without specific training and fluency in ASL, SLPs may often miss a critical cultural component in their interventions. Some professionals are not able to acknowledge the history of oppression of deaf people and embrace their cultural identity, and these individuals run the risk of reinforcing that oppression and potentially exacerbating their clients' language difficulties (Anderson & Wolf Craig, 2019).

Steps Toward Equity
What SLPs Can Do

SLPs can work to ensure their language intervention with deaf children is effective and equitable. They should:

- **Use the deaf child's preferred and fully accessible language**. This means adapting interventions created in English to include visuals and the use of ASL (Anderson & Wolf Craig, 2019).

- **Seek input from and collaborate with deaf colleagues**. Perhaps this is the most important step as it allows SLPs to address and even overcome any deficiencies in their understanding of ASL, Deaf culture, and what it means to be a deaf individual in a hearing culture. Deaf colleagues can aid in providing language therapy to deaf children, which is often complicated not only by bilingualism but by the need to differentiate language deprivation from language disorder (Hoskin, 2017).

While ASHA maintains high standards for SLPs, especially those who work with individuals using a language other than English, and despite the best of intentions of most SLPs, structural situations mean that we must work extra hard to create the best environments for our deaf and hard of hearing

Far left and right: SLPs can adapt interventions created in English to include the use of ASL and visuals in order to make interactions with their deaf students more effective and equitable.

students. Until it is possible for deaf professionals to become SLPs, or to have an analogous career, SLPs can work on improving their ASL, increasing their knowledge of the Deaf community and of what it means to be a member of a marginalized group in society, and expanding their cultural competence by learning from culturally Deaf instructors.

The SLP working with Jerry should request an ASL-to-English interpreter in her sessions, seek support from the signing teacher of the deaf, and work to improve her own knowledge of ASL and Deaf culture. This will allow her the ability to best serve her deaf student.

Jerry is a pseudonym.
**Native signers are individuals who use ASL as their first language from birth.

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Beautiful Utility:
Visual Tools Make Teaching More Effective and Fun!

By Michael E. Skyer

Visual tools are everywhere in deaf education. Research demonstrates their utility and effectiveness. However, many educators lack formal—and needed—training opportunities.

What Is a Visual Tool?

Visual tools—maps, diagrams, graphic organizers, and illustrations (Wilmot, 1999)—link two or more ideas together in a conceptual manner. In their landmark study of visual tools in deaf education, Easterbrooks and Stoner (2006) included the following examples: visual organizers, cognitive maps, information networks, concept maps, visual-spatial displays, semantic maps, and semantic webs. While describing maps, Farrauto (2016) defined visual tools as "artifacts [that] visually organize data and information [to make it] comprehensible and usable." As Kress (2010) explains, visual tools are nearly always multimodal. While some visual tools use only forms of images, others use only forms of language. Still others connect languages—text, fonts, or handwriting—alongside images—line, shape, and color. Recent digital innovations, including infographics, slide decks, and sketch notes (Caviglioli, 2019), result in increasingly multimodal visual tools for educators.

Visual tools simplify the complexities of our often chaotic and confusing reality (Farrauto, 2016). They eliminate background noise and focus our attention on key information. By doing this, they make our thoughts accessible for others (Kress, 2010).

All visual tools rely on abstraction (Lupi, 2016), but well-designed visual tools clearly connect abstraction with concrete reality (Cox, 2016). They allow people to externalize implicit knowledge and to share it with others quickly (Kress, 2010). While visual tools may be especially important for students who are deaf or hard of hearing, they are useful for everyone—as they have been throughout history.

Photos courtesy of Michael E. Skyer
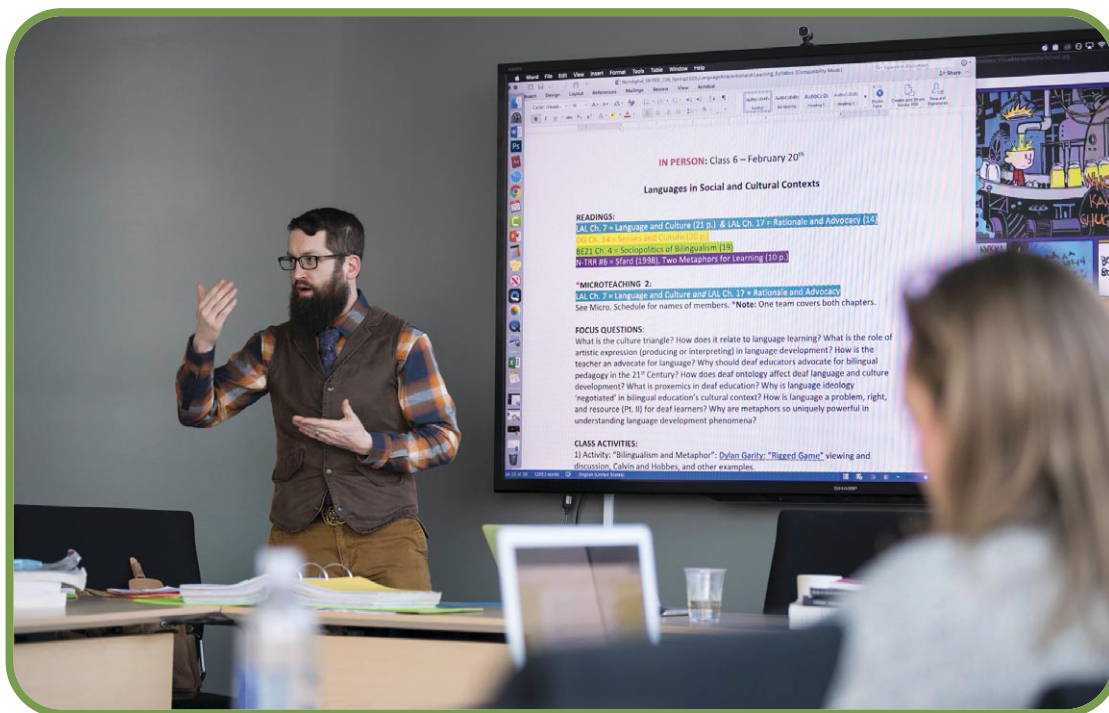
Left: Dr. Skyer instructs graduate students on the use of visual metaphors in the context of deaf students' language learning.

Throughout History

Archeological records show that visual tools are nearly as old as humanity and have played a decisive role in education (Kress, 2010). While now we are more likely to encounter digital tablets, 5,000 years ago tablets were made of clay and the imprinting was done with a stylus.

In the 1500s, Leonardo da Vinci and Galileo Galilei became prolific, well-known producers of visual tools. While da Vinci filled hundreds of notebooks with detailed anatomical and engineering illustrations, Galileo famously devised the first scientifically accurate lunar maps using watercolor paints.

Until recently, teachers in the United States fashioned visual tools from chalk markings on a blackboard; however, increasingly they use digital materials, including charts and tables, embedded in computer documents (Caviglioli, 2019; Nae, 2019).

Today's students use visual tools to document their learning and illustrate their interests (Kress, 2010). In pre-school, this may occur by drawing pictures from enjoyable stories. In elementary school, students may diagram parts of speech in written sentences or construct elaborate dioramas of their favorite animals in their natural environments. In high school, they may use visual tools to identify the parts of a cell, atom, or frog (Wells, 2000).

Teachers often guide students in their use of visual tools, and they also use visual tools to guide and assess student learning (Kress, 2010) as well as for their own learning and for other professional purposes. Most often, teachers use visual tools to assist in instruction. For example, secondary art teachers might use visuals to show students the parts of color theory or to illustrate a timeline showing the changing styles of architecture in ancient Greece; likewise, social studies teachers might have students analyze visual tools that take the form of maps or political cartoons (Armento, 2008).

Teachers like graphics, images, pictures, and videos because they show how ideas relate to one another (Armento, 2008). Visual tools can assist educators as they map out the sequence of events in a specific lesson or across a unit of study (Caviglioli, 2019). For these reasons, visual tools can make curriculum design transparent, logical, and sequential. High school teachers may use visual tools, such as rubrics, to organize and communicate feedback to students; language arts teachers may use color coding to streamline feedback about grammatical errors in compositions (Skyer, 2023a).

Visual Tools and Deaf Learners

Visual tools improve the quantity and quality of learning in language, science, and mathematics across all ages and all groups of deaf and hard of hearing students, including elementary, secondary, and college-age students as well as those with and without additional disabilities (Behm et al.,

2015; Dye, Hauser, & Bavelier, 2008; Kane, 2010; Skyer, 2023b). This research on visual tools includes mainstream and special settings among other points of diversity.

Easterbrooks and Stoner (2006) show that visual tools positively affect deaf students' literacy in areas such as vocabulary acquisition and use. Smith (2010) also demonstrates that visual tools are useful in science classes in secondary deaf education, in which students and teachers need to interrelate complex and voluminous data.

In higher education for deaf and hard of hearing students, Bauman and Murray (2014) suggest that visual tools clarify and extend sign language instruction. Based on this theoretical stance, Raike, Plyvänen, and Rainò (2014) demonstrate that visual tools not only enhance learning and teaching, but they also make learning more enjoyable, even beautiful, for deaf and hard of hearing learners.

I used the research noted above to frame my doctoral dissertation (Skyer, 2021). The new data I collected similarly suggests that when college educators who are deaf themselves increase their focus on the aesthetic aspects of visual tool design, they also become more attentive to the ethics of their teaching practices. I also found evidence that there were many sub-types of visual tools. Among them: biochemistry notation, freehand drawings, pedagogical body movements in physical spaces, Google search images,

> **Visual tools allow information to be presented directly to the eye, which is a major asset for deaf learners who can perceive and make use of visual information in a way that is more efficient, more ethical, and more effective than information delivered through modes like speech, which may not be fully accessible.**
>
> *~Skyer & Cochell, 2020*
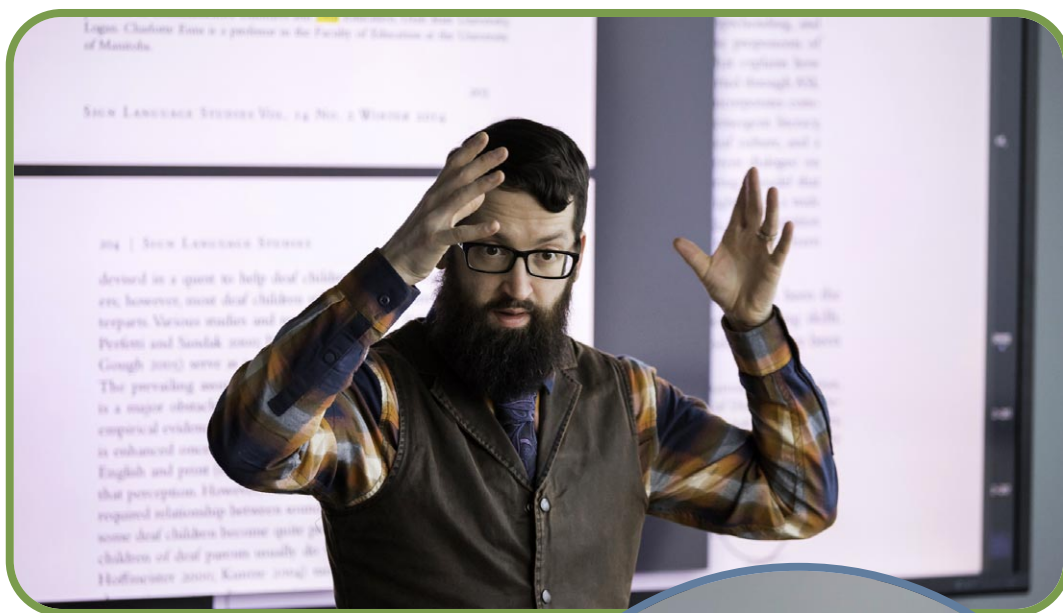
infographics, and American Sign Language vlogs.

Participants in my study used visual tools for four major purposes:

1. **Analysis**—Breaking down complex concepts into subcomponents
2. **Evaluation**—Assisting the students in making judgements or decisions
3. **Demonstration**—Showing multi-stage processes over a period of time
4. **Synthesis**—Capturing the core idea or essence of complex information

Visuality is a vital dimension of deaf pedagogy (Skyer, 2021). Visual tools allow information to be presented directly to the eye, which is a major asset for deaf learners who can perceive and make use of visual information in a way that is more efficient, more ethical, and more effective than information delivered through modes like speech, which may not be fully accessible (Skyer & Cochell, 2020). Using visual tools allows deaf educators to circumvent a dependency on spoken language; in

Below: During lectures, a variety of media formats and modalities, including comic books and cartoon illustrations, can be helpful in making information accessible.

Making Visual Tools

The first visual tool I remember constructing as a student-teacher was a simple line drawing of a book that was shown sitting next to a human brain. The sketch was made in black Bic pen on lined notebook paper. One part of the illustration showed a book with a large arrow pointing downward at its pages. Another part showed the brain surrounded by several arrows radiating outward. I drew it to show the difference between a word's "denotation" (the arrow pointing at the book) and its "connotations" (the many arrows moving away from the brain). This visual tool, I reasoned, helped students to understand the abstract idea that words have many meanings. This abstraction was grasped more easily through images alongside language modes than through just words or signs alone.

Since that first sketch, I've built hundreds and used thousands of visual tools in my teaching. These visual tools include those built by my students and those created by other teachers and designers. For about 20 years, my use of visual tools has involved deaf and disabled students and their educators in all kinds of diverse settings, from preschool to graduate studies, in formal schools and in community-facing education.

I even built my dissertation research—six case studies of deaf teachers who taught in higher education—around a desire to understand my observations about the use and importance of visual tools in deaf education. As a studio artist in several media, I explore and leverage my formal training to construct visual tools (Schif, 2010). However, what directs my use of visual tools overall is my insatiable desire to communicate ideas well and to effectively teach deaf students. What I experienced as a deaf educator has been confirmed by my research into the

Above and right: Visual tools and sign languages can be combined to enhance learning and teaching as well as to make learning more enjoyable for deaf and hard of hearing learners.

fact, it can allow them to sidestep language entirely (Skyer, 2023b).

Visual tools can support deaf students' critical thinking, creativity, and curiosity. However, a lack of knowledge or inadequate training can create problems for teachers who use visual tools with their deaf students. Research suggests that when visual tools are misused, they can become a drawback that slows down student learning (Yuknis, Santini, & Appanah, 2017). Smith (2010) highlights the possible problem of using too many visuals at the same time and notes the confusion that may occur if a teacher presents a visual tool but does not allow the deaf student sufficient time to examine it. If there are too many visual tools or if visual tools compete with other forms of knowledge delivery, such as a signing teacher or interpreter, deaf and hard of hearing students may not be able to effectively process the information.

Deaf and hard of hearing students must be given time to visually deconstruct tools, and they must know where to look. If too many visual stimuli are presented, their gaze breaks up and information processing is reduced (Skyer, 2023b). Deaf and hard of hearing students can benefit from explicit instruction to reduce dilemmas such as these.

teaching habits of others.

In deaf education, visual tools can be used to focus curiosity, to encourage our students to be critical thinkers, and to spark cognitive processes. When used well, visual tools encourage deaf and hard of hearing students' perception and attention to ideas, and they also promote genuine interactions with knowledge, understanding, and reasoning. Visual tools are both educational and communicational (Nae, 2019). In the hands of trained teachers, visual tools can make teaching deaf and hard of hearing students not only more effective but also more enjoyable.

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Looking Back:
A Deaf Woman Extolls the Importance of Family in Language Access

By Stacy Abrams

"Sign language is the noblest gift God has given to deaf people."
~ George Veditz

Families' options for language access for their deaf or hard of hearing babies and children have increased significantly over time, but it wasn't always like that. Choices for families used to be extremely limited. For example, even as a deaf baby born in 1976, I had more access to my environment than my older sister, Christie, did.

When she was born back in 1973, my parents went through the journey of many hearing families with deaf and hard of hearing babies. They discovered Christie was deaf at 2 months old, but the professionals at the doctor's office did not confirm this until she was 15 months old. As a result, my parents had no information about deaf education or deaf children, and my sister had no easy access to language. **In fact, the only piece of advice they received from the doctor was not to sign.** However, as Christie grew and my parents wanted to communicate with her, they invented signs and used them at home (e.g., "milking the cows" for *milk* because our family lived on a farm and we had cows, pinching the nose for *potty*).

Our family lived in the middle of Arkansas, and the nearest town was six miles away. However, we would travel to Little Rock, which was an hour away, for appointments. There, at the Arkansas Department of Health, my parents and Christie, who was now 18 months old, finally met audiologists who "discussed all

Photos courtesy of Stacy Abrams
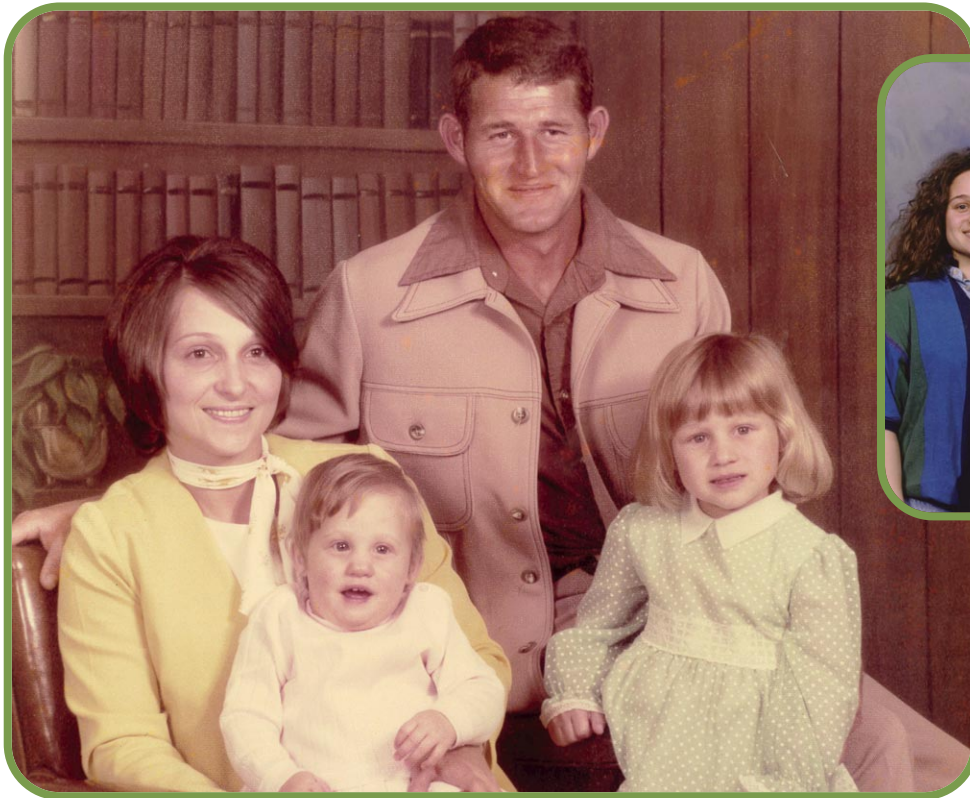
Left: Stacy (age 1), Christie (age 4), and their parents in 1977, already well into their signing journey.
Above: A proud Gallaudet family in 1994; Christie was already a student, and Stacy was soon to enroll.

the options" (oral or Total Communication) and were again advised not to sign with their daughter. But my mom was always an independent thinker. She asked how many words my sister would learn by age 6 and the woman did not have an answer, so my mom decided that if my sister picked up spoken words then that would be fine but signing made more sense for a child who was deaf.

The Arkansas Department of Health referred my family to a woman—the only one in the state—who worked with deaf toddlers. My mom contacted her, convinced her to make time despite the woman's full schedule, and they figured out how and where to meet. When the funding for the woman's service ran out, my mom still drove to the woman's home two hours away and even to the university three hours away to see her. "I just knew that I had to do what I felt was best for my daughter," my mom said. With the woman, my mom learned some signs. She then taught them to my dad, who focused on practical signs and used them with Christie. My sister was "like a sponge," my mom said, soaking up the language that she could see. I had also been born in the midst of all this and was now a few months old, beginning my own language journey. The Arkansas Department of Health had a playgroup in which Christie was enrolled at around age 3, and the playgroup lasted for a year. When that ended, though, my

mom was ready. She had already done her research, and she was determined to advocate—for both of her deaf daughters.

My mom knew about programs in other states for deaf toddlers and their families. They offered deaf children support from various educational professionals, including deaf and hard of hearing members of the community. She collected brochures and information, and she went to see the principal of the Arkansas School for the Deaf (ASD). She said ASD had to do something. ASD was receptive. In fact, administrators had been thinking about establishing a program for a while. They sent the early intervention team for training and then started the first Parent-Infant Program (PIP) at ASD. Christie enrolled in pre-kindergarten at ASD, and a few months later, I joined her at the school. I was 18 months old now, officially the youngest student at ASD, and ASD's first PIP child. (Christie and I would spend the rest of our childhood attending ASD.)

Introduction to the Deaf Community

As my mom was navigating this journey of access for us, she wanted to connect with other deaf people who could offer valuable information and guidance. In this time before the internet and social media existed, the closest Deaf community to us in Arkansas consisted of a single Deaf family. The dad

owned an auto body shop; the son was about 10 years old; and the grandad, who was hearing, drove a bus to my mom's school when she was a student, and they always waved to say hello. My mom decided to pop over and see if they would be willing to answer some questions. In the late 1970s, it was maybe still a radical idea to seek out deaf adults to learn about the needs of deaf children, but my mom wanted to know how a deaf family worked. She asked questions about the TTY device used with a telephone to call others, and she saw how a flashing doorbell light worked. She also learned more practical information about living as a deaf person in that first one-hour visit than she had learned in the first two years of my sister's life.

As the second deaf child in a family that had been all hearing, it was easier for me. My sister—my first deaf teacher—began signing with me from the moment I arrived home. (I was identified as deaf at 5 months old, and that was considered early in the 1970s.) My mom had already learned to make everything visual. She also learned American Sign Language (ASL) while working at an agency supporting deaf individuals and from interacting with the Deaf and signing community that supported my family's ASL journey; she would eventually become an ASL interpreter. My father signed with me as well, and both of my parents ensured my access to language and community as early and as fully as possible.

The Impact of Language: A Life of Success

With language access firmly established, and with the constant support of my family, I went on to graduate from ASD and then earned my bachelor's degree from Gallaudet University in Washington, D.C. Then in graduate school, I convinced the Dolphin Human Therapy Program in Key Largo, Florida, to

give me a chance. I worked with speech and language therapists who worked with children from all over the world with different disabilities who used sign language. I taught ASL classes during lunch for families. I did not have an interpreter, and I communicated through lipreading, signs, gestures, and writing. Still, I must have done something right because they asked me to come back the following summer as head intern. I loved the work, and I realized that my passion was working with families with deaf and hard of hearing children.

I went on to become coordinator of the Deaf Mentor Program at the New Mexico School for the Deaf for 7 years, then I became the Deaf Mentor coordinator for the state of Arizona. I spent 10 years working with families with deaf and hard of hearing children—over 250 families altogether—connecting them with trained Deaf adults. Deaf Mentors use the SKI-HI Deaf Mentor Program curriculum that emphasizes learning ASL, connection to Deaf/signing communities, and sharing resources and information in support of deaf and hard of hearing individuals.

#whyIsign for Building Connections

In Arizona, I created #whyIsign, a personal social media campaign, because many families are still not given resources or support to include signing as a mode of communication with their children. For most families, their baby is the first deaf person they meet. They often feel alone, nervous, and scared to connect with the Deaf community. Our diverse Deaf communities often desire to connect with hearing families, too, but lack knowledge of where families are and how to reach out.

When my sister and I were little, my mom wanted to connect with other families with deaf and hard of hearing children, but she could not due to privacy concerns. Now, with social media and other organizations, families have more opportunities to connect with each other. Many families use social media to receive and share information. Communicating through narratives is one of the best ways to share information, so the goal is to always share stories because every #whyIsign story needs to be seen, heard, and felt.

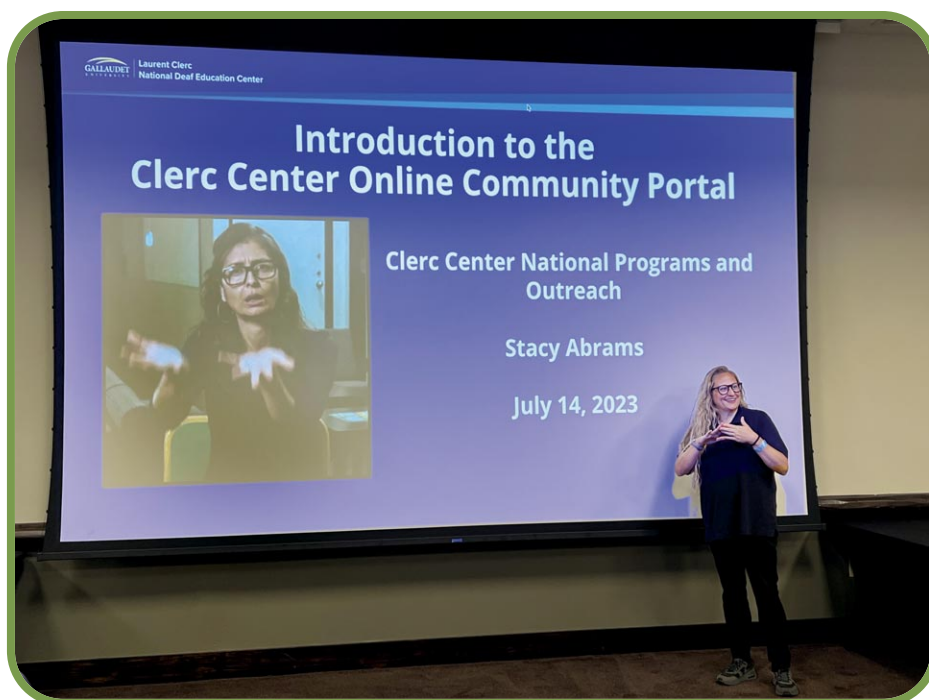Through sharing #whyIsign narratives, people can:

- Connect with families with deaf and hard of hearing children and share experiences

- Connect to diverse Deaf and hard of hearing communities

- Connect with the signing communities (e.g., children of deaf adults/siblings of deaf adults, students, parents, friends)

- Share resources and information about the experiences of raising a deaf or hard of hearing child

- Understand that sign language is a right, not an option

Looking Ahead, Passing It On

I feel that I have come full circle with my life. Currently, I am a project manager for early intervention for the Laurent Clerc National Deaf Education Center's National Programs and Outreach, which provides resources to families and professionals related to educating and supporting deaf and hard of hearing children (ages birth to 21). In this position, I also provide support for the Regional Early Acquisition of Language (REAL) Project, which is a collaboration between the Clerc Center and the Alabama Institute for Deaf and Blind. The REAL Project provides a network of support for early intervention providers, families, and the medical community who work with deaf and hard of hearing children from birth to 3 years old in the United States as well as in the U.S. territories. My parents could have benefitted from a program such as REAL back when they were beginning their language access journey for my sister and me. Still, I did

Above and right: As part of their work with the Clerc Center and its REAL Project, Abrams and colleague Shanae Rouse present to families and professionals around the country on Clerc Center resources and the importance of early intervention for deaf and hard of hearing children.

receive early intervention along with family support and saw what worked and what did not work. Now, I am supporting families with deaf and hard of hearing children to ensure they have an accessible and equitable education starting from when the children are born.

Times have certainly changed since my sister and I were students. Fortunately, early access to language is now regarded as a human right. Thanks to today's social media and technology, families and students can learn about opportunities in their communities; they can more easily get together, share information and resources, and learn from and support each other.

I would not be where I am without the determination of my family and the amazing communities that came together to support my mom and dad in raising their two deaf daughters. I have benefitted from early exposure to ASL, parent advocacy, and equitable education. This allowed me to become a passionate professional and a proud member of the Deaf community. Now I want to support hearing families in connecting to the Deaf and signing communities so that no deaf or hard of hearing child will ever be left behind again.

Author's note: For more information on the Clerc Center and the REAL Project, visit https://clerccenter.gallaudet.edu *and* https://www.aidb.org/real, *respectively.*

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Speech to Text, Text to Speech:
Support for Deaf and Hard of Hearing Students

By Amanda Connelly and Jane Doyle

Mateo*, a new transfer student, entered the Model Secondary School for the Deaf (MSSD) in 2019. Fourteen years old and in the ninth grade, Mateo's home language was Spanish, but his primary academic communication was spoken English with sign support. Mateo was reading at a pre-kindergarten level.

Mateo was like many students, neither fluent in English nor in American Sign Language (ASL) and significantly delayed in literacy skills. At MSSD, he was provided with emerging signers services to develop his expressive and receptive ASL skills. He was also provided with speech and language services by a bilingual, Spanish-speaking speech-language pathologist. This included the use of listening devices that changed text to speech (TTS) and speech to text (STT).

TTS and STT have proven beneficial for students who are hard of hearing or who are consistent users of listening devices (Glassman, 2021; Stanberry & Raskind, n.d.). TTS and STT join a variety of other accommodations (e.g., reading aloud, scribing, pre-teaching relevant vocabulary) to support the development of students' reading and writing skills (Dawson et al., 2018).

While they may not be appropriate accommodations for all deaf students, TTS and STT may provide students who have significant auditory access with support in skills related to sounding out words, word recognition, and spelling. TTS and STT are designed to support those students whose access to spoken English is stronger than their access to printed English (The Understood Team, 2022;

Photos courtesy of Amanda Connelly and Jane Doyle
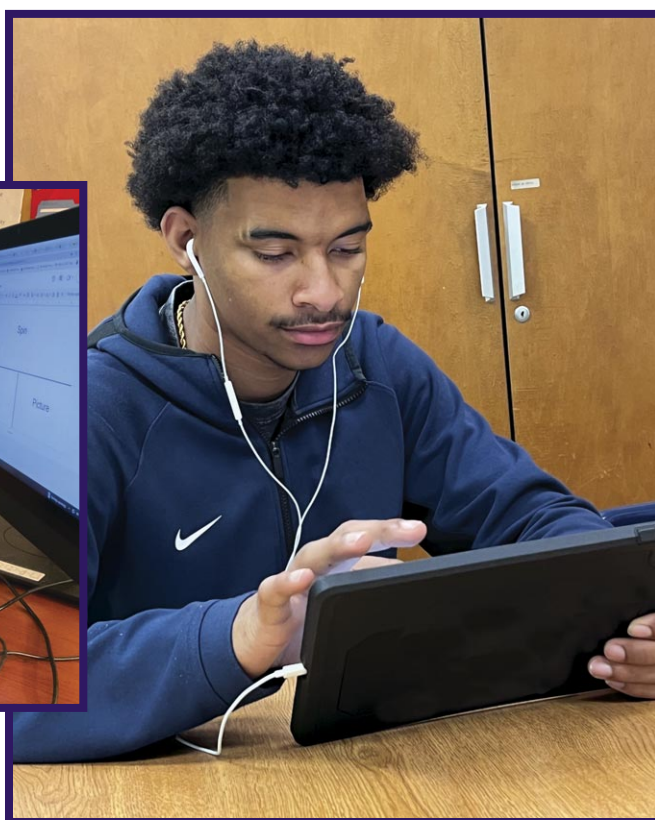
National Center for Technology Learning, 2017). This includes students who:

- Read and/or write at a level that is several years behind their current grade level

- Are hard of hearing and have access to spoken language for learning

- Are strong users of hearing assistive technology (e.g., hearing aids, cochlear implants)

- Come from homes in which spoken language is the primary method of communication

- Have dyslexia or dysgraphia

- Have an identified learning disability in reading

- Have a diagnosis of attention-deficit/hyperactivity disorder

TTS and STT

During the pandemic, school buildings closed and Mateo received both instruction and speech and language services remotely. As Mateo had access to

Above, left: Students have the option to turn on STT accessibility features when using Google Docs or Google Slides. **Above:** Although available as a special app or a separate device, TTS systems are also a built-in feature in modern computers, tablets, and smartphones.

spoken English and intelligible speech, he used TTS and STT tools. These were provided first in his speech and language sessions.

TTS is an assistive technology in which the computer reads aloud text on the screen. TTS is not a recorded human voice; instead, the voice is computer generated. The commonly available TTS programs allow students to press a button on the computer screen to activate this feature. They can follow along as the text on the screen is voiced by the computer. Students activate the setting only when they choose. They can listen through built-in speakers, use headphones, or even stream the content to their personal hearing aids or cochlear implants using Bluetooth technology (The Understood Team, 2021). The volume can be adjusted to suit their preferences. Many TTS systems also highlight the paragraph or word as the system reads through the passage, making it ideal for students

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into his English classes. He used both TTS and STT services with audiobooks—all available to him on his school-issued iPad. He also used both technologies to help him complete assignments for other courses.

TTS and STT have strong potential for use in the classroom; both reduce the cognitive load and allow students to focus on comprehension. Sometimes teachers express concern that the use of TTS and STT in the classroom will interfere with or will replace the use of ASL, but TTS and STT simply support access to English print. These technologies do not replace ASL; they do provide those deaf and hard of hearing students who have auditory access with an additional pathway to connect with the printed component of a bilingual learning environment.

Of equal importance, TTS and STT can be used in any language, thus supporting multilingual learners. In allowing access to printed academic content, these tools can lessen anxiety related to reading and writing in a new language. Some students develop speaking and listening abilities before reading and writing skills. TTS provides these students with the opportunity to listen to and learn new words, increasing access to how words are pronounced (Carroll, 2014). At the same time, STT allows students to use their speaking abilities to produce written text with less stress (National Center for Technology Learning, n.d.). Students can use TTS and STT to develop their reading and writing abilities in their home language as well as in English.

to follow along with the text. The delivery can be sped up or slowed down to match the listeners' preferences or processing needs. Although available as a special app or a separate device, TTS systems are also a built-in feature in modern computers, tablets, and smartphones. TTS is available for iPad and Google Chrome and commonly used nationwide.

STT is available on the electronic devices people use every day. People use STT when they ask Siri or Alexa to check the weather or play a song. Physicians use STT to compose reports, as they have for decades. Google products such as Docs and Slides and the Apple iOS operating system used for MacBook and iPad have options to turn on STT accessibility features. The device will use the built-in microphone to pick up a user's speech and transcribe it into printed words in the document or Google Slide presentation on the user's screen. STT transcribes the speaker's words verbatim; it does not adjust for incorrect grammar, vocabulary use, or missing punctuation. Individuals using STT must return to the script they produced and edit it.

In the Classroom

When in-person learning resumed, Mateo returned to MSSD where he received speech and language services, including TTS and STT, in pull-out sessions as well as integrated

> **These technologies do not replace ASL; they do provide those deaf and hard of hearing students who have auditory access with an additional pathway to connect with the printed component of a bilingual learning environment.**

Accommodation and the Law

During the Fall 2022 semester, Mateo worked with a Gallaudet University graduate student speech-language intern who provided services in both English and Spanish. He demonstrated the ability to listen to and read Spanish, and he responded appropriately to comprehension questions. Mateo said he wanted to have strong language and literacy in both English and Spanish.

The Individuals with Disabilities Education Act (IDEA) requires schools to provide assistive technology—both devices and associated services—for children with disabilities. The law also requires that

training be provided to students, teachers, staff members, and parents on how to use this technology (Wright, 2023). Assistive technology supports students' opportunities for learning, their social interactions with peers, and their potential for meaningful employment and often should be incorporated into students' Individualized Education Program (IEP).

TTS and STT can be added during the annual review IEP meeting, or a periodic review meeting can be called to make changes to the IEP mid-cycle. The student's case manager, English teacher, school psychologist, audiologist, and speech-language pathologist, along with other IEP team members, should be included in the meeting. Each professional should bring relevant data to share. Parents/legal guardians at home are experts on their child, and they should also be viewed as valuable members of the IEP team.

TTS, STT, and Testing

Once Mateo succeeded in using TTS and STT in class, his speech-language pathologist, audiologist, and English teacher gathered supporting data and then recommended that he use these accommodations in testing as well. When tested using these accommodations, Mateo had increased understanding and recall. Further, the technologies allowed him to produce typed text that was more legible than his handwritten work.

TTS and STT may be especially critical tools for standardized testing. This includes state-specific English, math, and science assessments as well as the American College Testing (ACT) exam. The school testing coordinator must identify the required accommodations at the time of registration, which typically

occurs months before testing takes place. It is important to identify any IEP changes required for testing accommodation needs early in the academic year.

Mateo Today

Mateo now reads at a fourth grade level and makes progress every day. Technology has allowed him to participate more fully in his classes. It has also provided us with a better way to measure his literacy skills.

For Mateo and other deaf and hard of hearing students with adequate access to spoken language, TTS and STT have proven to be valuable tools. They can help with achievement of full potential in the classroom as well as in postsecondary environments.

*Mateo is a pseudonym.

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Access and Equity in ASL Acquisition:
Resources to Improve Early Access to Sign Language

By Todd LaMarr, Lisalee Egbert, and Bee Vicars

Ximena and Joaquin* have two children, a hearing 3-year-old and a newborn who they just found out has a profound bilateral hearing loss. Like most hearing parents, deafness is a new experience in their lives, and they have much to learn and many decisions to make. While they continue to debate long-term plans, they know that providing accessible language immediately is essential; thus, they have decided to learn sign language. However, this decision opens up new decisions that need to be made while also balancing their family life. For example, what is the best way to learn: online, through books, or by taking classes? On a strict budget, can they afford the classes and resources required? How can they balance family and job responsibilities while devoting enough time to learn and practice a new language? And how can their extended family, some of whom live nearby but some of whom live far away, also learn sign language?

The experiences and questions Ximena and Joaquin have are common to many hearing parents with deaf and hard of hearing children. Their decision to learn American Sign Language (ASL) so their deaf infant has immediate exposure to an

Photo by Matthew Vita, Laurent Clerc National Deaf Education Center

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Bee Vicars, MFA, is an instructor of American Sign Language (ASL) at California State University, Sacramento and co-owner of Lifeprint.com. She is also a Facebook blogger who is passionate about educating the public on Deaf issues and in her spare time enjoys making lists of Deaf content creators and ASL resources.

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accessible language is a challenging endeavor (Flowers, Duchesne, & Gaucher, 2022). Like the 95 percent of hearing parents with deaf children, they are unfamiliar with ASL—and they deserve equitable access to learning it. That means they need to find resources that are free or low-cost and learning opportunities that are flexible and allow them to balance their other responsibilities.

Ximena and Joaquin deserve credit for recognizing the importance of early language learning and deciding to learn ASL. When deaf children are exposed to sign language from an early age, they show age-appropriate language development similar to the pattern and rate of growth of native** signing children (Allen &

Morere, 2020; Berger et al., 2023; Caselli, Pyers, & Lieberman, 2021). Research emphasizes that early access to a sign language is critical to a deaf child's long-term language growth.

However, after the decision is made to learn a sign language, parents like Ximena and Joaquin face new challenges. First, it is difficult to learn another language as an adult and can take years to become conversationally proficient. Second, misconceptions about sign language continue to persist, such as that learning sign language impedes the acquisition of a spoken language and that sign language is not a real language at all (see Humphries et al., 2022, for a discussion). Some parents are fortunate to find

challenge to families. In fact, hearing parents report that two of the major challenges to learning sign language are the costs of resources and time (Lieberman, Mitchiner, & Pontecorvo, 2022).

Free and Low-Cost Online Resources

In the interest of equity of access, some individuals and organizations are creating high-quality sign language learning resources that are free or low cost. These allow parents to practice and learn when they have time, and they do not need to worry about finances.

Below is a listing of free ASL resources that we find helpful:

- **Lifeprint** (*www.lifeprint.com*), a website with an ASL dictionary and self-paced lessons

- **ASL at Home** (*www.aslathome.org*), an online program that offers a family-based ASL curriculum in both Spanish and English

- **ASL Stories Directory** (*www.deafchildren.org/knowledge-center/asl-resources/sign-language-stories/*), a collection of stories read in ASL sponsored by the American Society for Deaf Children
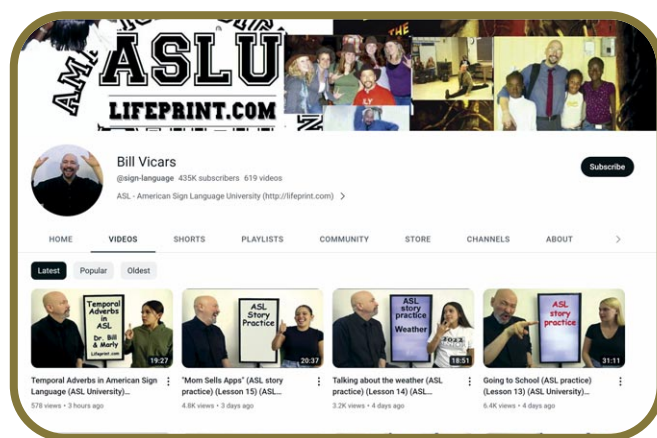

- **Bill Vicars's YouTube channel** (*www.youtube.com/@sign-language/videos*), a variety of vocabulary videos and other topics

- **Spread the Sign** (*www.spreadthesign.com*), an online sign language dictionary representing a range of sign languages from around the world, including ASL

a Deaf Mentor or a Deaf Mentor Program in their area. This allows them to not only get help learning sign language but also to learn interactional and attention-supporting strategies and to learn about Deaf culture.

Still Ximena and Joaquin—and parents like them—persist, and the next question they face is perhaps one of the toughest ones: *What is the best way for hearing parents to learn sign language?* Two of the most common ways are self-teaching (e.g., books, videos, computer apps) and taking sign language classes, such as at a community college or university (Caselli, Pyers, & Lieberman, 2021). While most frequently selected, these ways are not always the most equitable as they usually require money, and finances can be a

> In the interest of equity of access, some individuals and organizations are creating high-quality sign language learning resources that are free or low cost. These allow parents to practice and learn when they have time, and they do not need to worry about finances.

- **Rocky Mountain Deaf School's YouTube channel** (*www.youtube.com/user/RMDSCO/ videos*), including ASL stories, ASL art lessons, ASL vocabulary, and more

- **PopSign** (*www.popsign.org*), an interactive game app to help learn ASL

- **Handspeak** (*www.handspeak.com*), an online ASL dictionary that also incorporates regional signs used in Canada
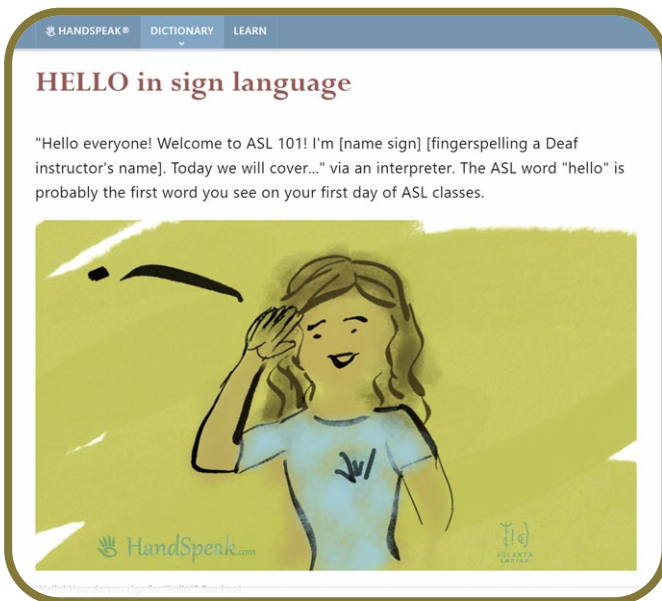
- **Signing Savvy** (*www.signingsavvy.com*), an online ASL dictionary and sentence examples with online tutoring
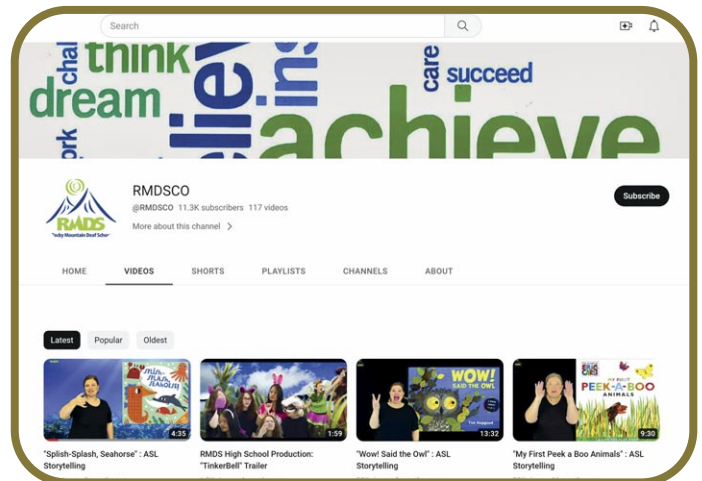
- **Lifeprint's Fingerspelling Practice** (*www.asl.ms*; mobile version: *www.asl.ms/mobile/*), an online tool to practice ASL fingerspelling comprehension

- **Lifeprint's Number Practice** (*www.asl.bz/*), an online tool to practice ASL number comprehension

- **VL2 Storybook app** (*www.vl2storybookapps.com*), a series of interactive ASL stories and literacy activities for children that are accessible via an app
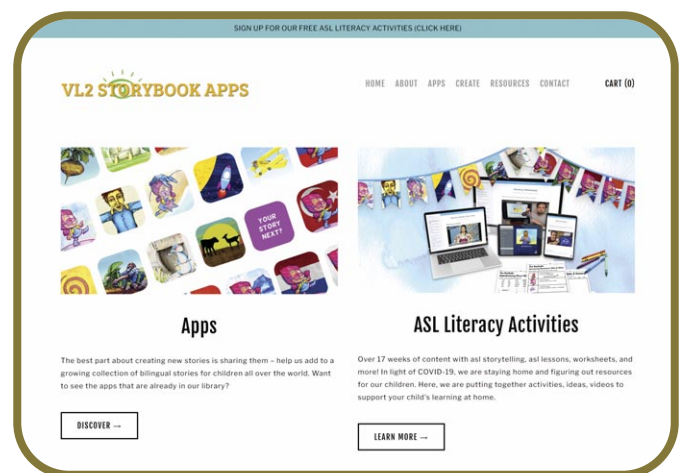
Some low-cost sign language courses are also available:

- **ASL Connect** (*www.gallaudet.edu/asl-connect*) provides ASL classes through Gallaudet University

- **American Society for Deaf Children** (*www.deafchildren.org*) offers online ASL courses for parents in English and Spanish and hosts an annual literacy conference and provides various other ASL parenting resources
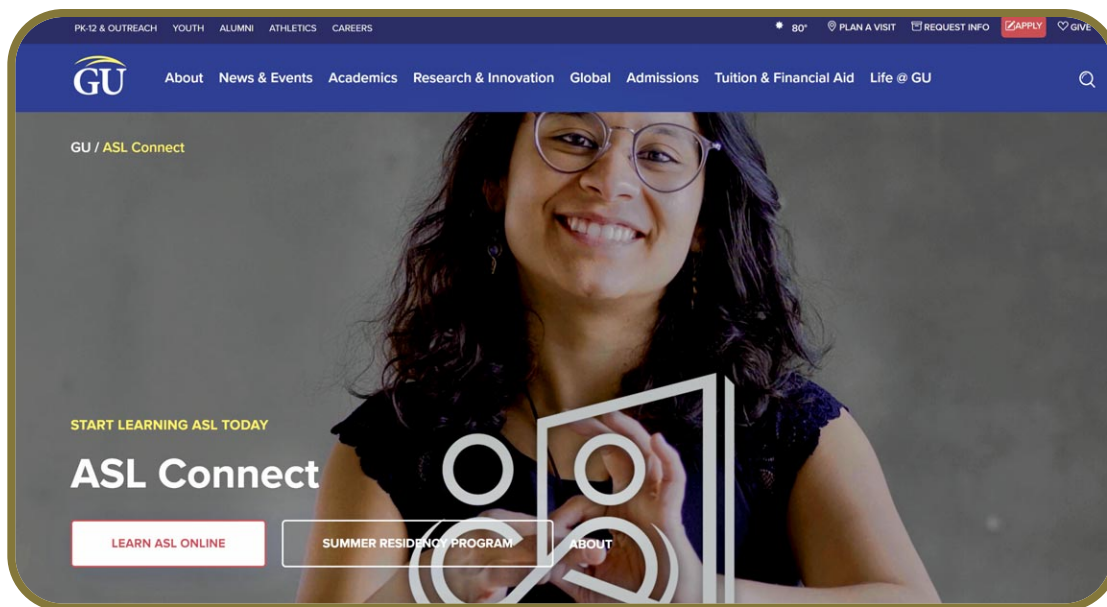
Left and below: Low-cost sign language courses are available online for parents and others.

- **SignOn Connect** (*www.signonconnect.com*) presents online language immersion and pairs up ASL learners with a live Deaf language model/tutor

Not only did Ximena and Joaquin find access to free sign language resources, but they also found resources that helped their baby's *papa*, *abuela*, and other family members learn ASL, too. Families like those of Ximena and Joaquin have enough of a challenge learning a new language while taking care of a new baby; they should not have to experience barriers to learning opportunities as well.

When ASL resources are free and/or low cost, it creates more equitable access opportunities for all families to best support the language development of their deaf children.

*Ximena and Joaquin are pseudonyms, and their story is a compilation of parent experiences.

**Native signers are individuals who use ASL as their first language from birth.
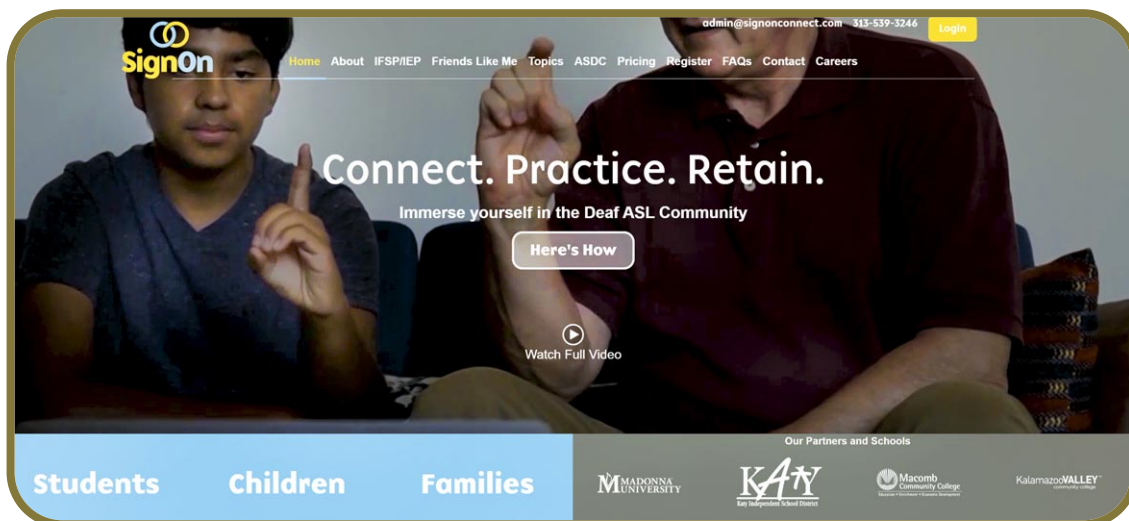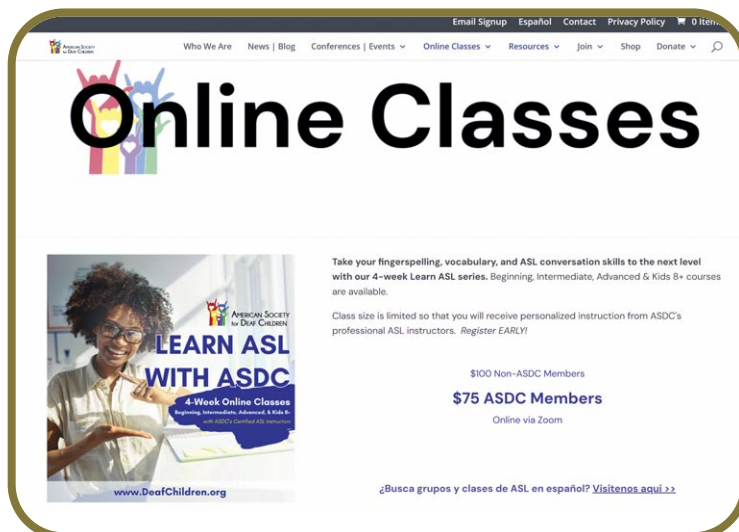
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EMPOWER YOUR CHILD WITH TEAMWORK, LEARNING, AND FRIENDSHIP.

Gallaudet University offers exciting programs and competitions for deaf and hard of hearing youth up to age 18. Give your child a chance to learn leadership, teamwork, and self-confidence in a fun, peer-oriented environment.

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Seeking Submissions for the 2024 Issue of Odyssey

THEME: Language-Rich Environments in Deaf Education

The next issue of *Odyssey* will focus on deaf and hard of hearing students' access to language-rich environments, which serve as the "least restrictive environments" that provide the most access to language and communication. This access, in turn, impacts academic and social-emotional development.

Defining a language-rich environment should be at the heart of educational planning. Planning and decisions about placement should take into consideration each child's unique language, learning, and communication needs, along with what will encourage the child to not just meet expectations but also to thrive. Research findings emphasize that all children should have abundant and interactive access to thousands of words or signs every day, not just in the classroom but also during playtime and extracurriculars, at home, and in the community. What may be a language-rich environment for one student is not necessarily the same as for another student. Considerations for deaf and hard of hearing, deafblind, and deafdisabled students may also include exceptional learning capabilities and other factors, such as the student's preferred language or use of assistive technology.

Please share with us how families and educators are ensuring their deaf or hard of hearing children or students can participate fully in their environments, including with their families and peers:

- How can educational teams, including parents or caregivers, ensure the deaf or hard of hearing student's academic environment is inclusive, providing an abundance of accessible and interactive language? What bilingual approaches or support services foster this inclusion?

- What strategies are being used to promote social-emotional learning? Are there a number of age-appropriate and level-appropriate peers who share the child's language and communication preferences? Does the child participate in extracurricular experiences?

- What supports are being used in the home? How do parents and caregivers promote language-rich interactions? Are stories signed or read aloud? Is the child included in conversation during mealtimes? How can extended family and friends become a part of the child's language-rich environment? Are Deaf Mentors or role models available to work with the child and the family?

- Which assistive tools and technologies are being used to support language use? How do educational teams determine which supports to include when developing Individualized Education Programs and 504 plans? Are the child's perspectives and preferences included?

Please e-mail your ideas to *Odyssey@gallaudet.edu*. We will begin accepting submissions on **July 3, 2023**, and continue until **December 4, 2023**, or until the magazine reaches capacity. Contact us at any time with questions or to discuss your ideas.

TO VIEW THIS INFORMATION IN ASL, SCAN THE QR CODE ABOVE.
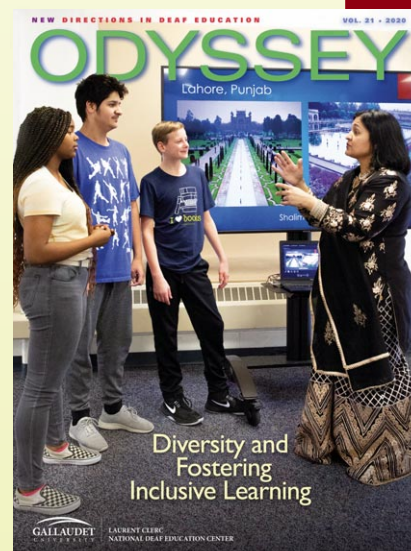
Clerc Center Online Community: Connect ... Grow ... Learn
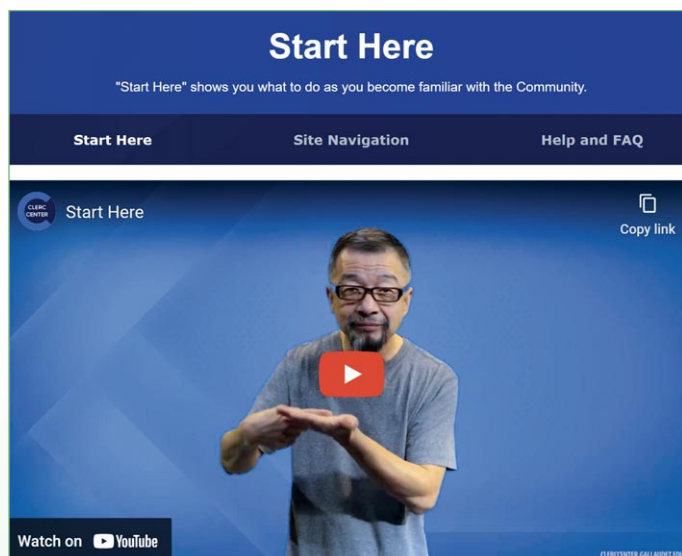
By Mary Henry Lightfoot, MS, NIC: Adv., CI, CT

Community ... What does this word, this concept, mean to you? In today's fast-paced, post-pandemic world, community provides a means of belonging, a place where one can feel at ease, learn something new, discuss a topic that has been on one's mind, or attend a live event. Now that we are in the artificial intelligence/GPT era, systems and supports are changing, with more automatic, non-transparent, and non-person solutions happening in the background. Yet community remains, as always, *people-centered*.

The Clerc Center Online Community brings together stakeholders who have an interest in deaf and hard of hearing children from birth through twelfth grade. This means families, K-12 professionals, early interventionists, first

responders, and others. The common interest for this community is deaf and hard of hearing children. This interest is addressed through resources, live events, discussion forums, and self-paced learning. The focus of the community is YOU. Activities are largely free. Collaboration and co-creation of information are encouraged. As Maya Angelou said, "When you learn, teach, when you get, give." This is the essence of community. The Community seeks to provide equitable access and opportunities to stakeholders to learn, grow, and share together.

How Might the Online Community Benefit You?

Biran Solis, world-renowned digital anthropologist and futurist, stated, "Community is about doing something together that makes belonging matter." There are an estimated 308,648 deaf and hard of hearing children

between the ages of 5 and 17 and 100,106 deaf and hard of hearing children under 5 years old (U.S. Census Bureau, 2018). How do we remove the barriers to their advancement cognitively and socially? The Community provides an opportunity to increase the knowledge base of professionals and families with topics relating to the social-emotional, academic, and language needs of deaf and hard of hearing children ages birth through twelfth grade. What would you like to learn more about? What might you want to contribute to the Community? Below are features of the Community that may assist your personal journey:

- If you are a family member with a deaf or hard of hearing child, look at the "Families" section of the Community to find resources or learning designed specifically for your needs. You can select one or more resources to learn more about language and communication, experiences of other parents and caregivers,

> **The Community provides an opportunity to increase the knowledge base of professionals and families with topics relating to the social-emotional, academic, and language needs of deaf and hard of hearing children ages birth through twelfth grade.**

advocacy, or hot topics.

- If you are a professional

working with deaf or hard of hearing students in K-12 or pre-school settings, you may be interested in resources that discuss how to support deaf or hard of hearing students, literacy, or social-emotional learning.

- If you work with early intervention, check out resources about early language acquisition, early hearing intervention, or family support.

- There is self-paced learning for which you can earn a certificate after completing the learning modules. One example is the 15 Principles for Reading to Deaf Children.

- Live events are hosted online, during which people come together to learn more about specific topics. To date, we have had events focused on school environments referencing informed trauma and teaching science-related content. More topics are coming this fall.

- If you want to meet other families or professionals, join one of our discussion groups. Start by introducing yourself to the group.

As shown from this Community listing, there's something for everyone!

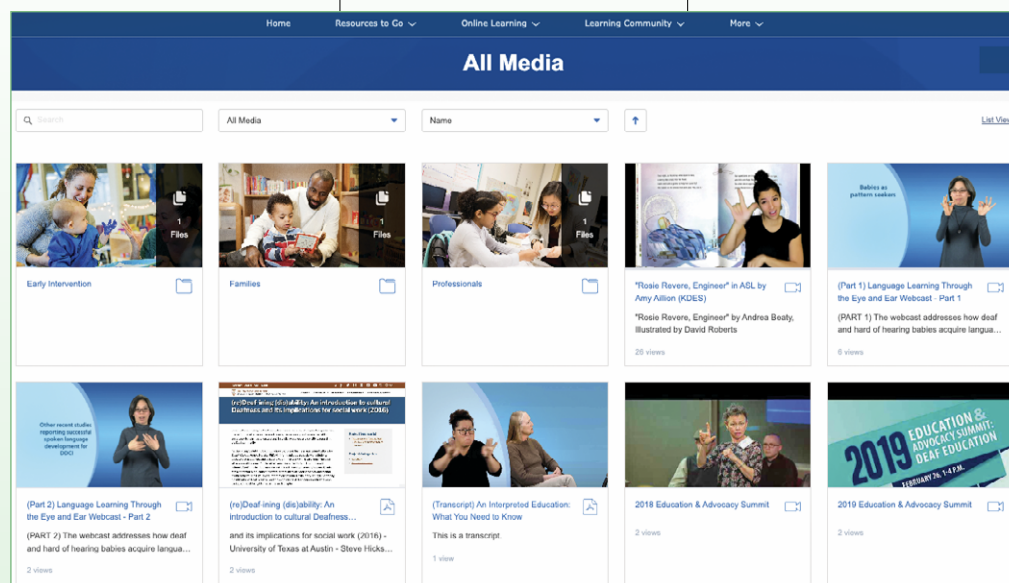**Diversity of the Online Community**
The Community opened in

October 2022. Community members include families, teachers, administrators, Deaf Mentors/Deaf Role Models, speech-language pathologists, audiologists, interpreters, university professors, students, and more. Members come from a variety of settings, including, but not limited to, general education settings, schools for the deaf, and

community for over 30 years, and within that time I've been involved specifically with the birth through twelfth grade community for over 10 years. I love working with online communities as they provide an equalization of access to information and bring people together from different parts of the country (and world) for peer-to-peer interaction,

private schools. They come from cities, suburban areas, and rural areas across the United States and its territories (and beyond). Community members' experience levels with deaf and hard of hearing children range from little to expert. This diversity provides opportunities for sharing a myriad of experiences and viewpoints.

Here's My Story … What's Yours?
I am a hearing person who has been involved with the Deaf

learning, and growth. I appreciate seeing people's stories and enjoy interacting with others, including families, professionals, and other interested individuals. While I am from the East Coast, I appreciate the experiences of those from different parts of the country and from different backgrounds. When we all contribute to the Community, a magical synergy results. What is your story? What types of knowledge and interactions are you seeking?

How might the Community help with your journey?

Let's Get Started!
If you are part of a family, what are you seeking for your deaf or hard of hearing child? If you are a professional, what support do you need in working with deaf or hard of hearing children? Let's find the answers together by

learning in tandem, supporting each other, and exploring resources in the Community.

To get started, go to *https://clerccenter.force.com/* to register for the Community. After completing the registration process, sign up for one of the learning plans, join a discussion group, check out the Resources to Go area, or sign up for a live event. If you have any questions or issues, simply click on "Contact Us" for assistance.

We look forward to seeing you in the Community!

MSSD Team Triumphs in Academic Bowl Championship

The Clerc Center wishes to recognize and praise the incredible performance of the 16 teams that traveled to Washington, D.C., to participate in the 2023 Academic Bowl National Competition, a weekend of matches and activities hosted by Gallaudet University Youth Programs.

The teams went through the first day with an initial three rounds to determine placement in the next day's elimination tournament to the championship. MSSD defeated California School for the Deaf, Fremont to be declared this year's winner, successfully defending their title and becoming the first-ever Academic Bowl team to win two back-to-back championship series.

Two first-time teams made a splash, qualifying for the National Competition. The Frederick County Public Schools team made waves with a third place finish over W.T. Woodson High School, a huge feat for this team, while The Academy - San Francisco @ McAteer made a strong showing this year in qualifying for Nationals. Mount Tahoma High School had participated in previous years, but this was the first year in school history that their team qualified for the Nationals.
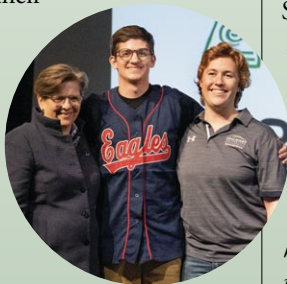
Our congratulations go to all players and coaches on an outstanding effort, and our thanks to their supporters everywhere!

Champions
Model Secondary School for the Deaf (Washington, DC)

Second Place
California School for the Deaf, Fremont (Fremont, CA)

Third Place
Frederick County Public Schools (Frederick, MD)

Fourth Place
W.T. Woodson High School (Fairfax, VA)

Sportsmanship
Metro Deaf School (St. Paul, MN)
Mount Tahoma High School (Tacoma, WA)

All-Star Players
Chang-May Tan, California School for the Deaf, Fremont
Hiruni Hewapathiranage-Mayadunne, Model Secondary School for the Deaf
Kieran Vollmar, New Mexico School for the Deaf
Martin Skjeveland, Indiana School for the Deaf
Max Harris, Texas School for the Deaf
Sevan Ikeda, California School for the Deaf, Fremont
Sonan Sahgal, W.T. Woodson High School
Sophie Fernandez, Frederick County Public Schools

Most Outstanding Player
Coffey King, Model Secondary School for the Deaf

To view photos of the teams and the results of all of the matches throughout the weekend, visit *https://gallaudet.edu/youth-programs/academic-bowl/2023-national-competition/*.
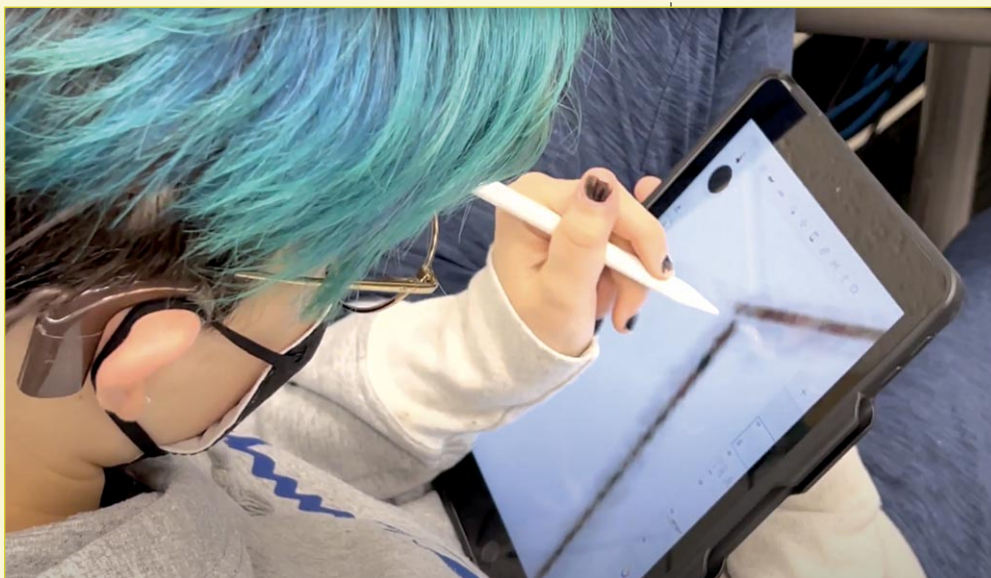
Clerc Center Recognized as Apple Distinguished School

In September 2022, the Clerc Center was recognized as an Apple Distinguished School for its use of Apple technology both in the

HEARING WORLD REJECTS NOISES BUT DEAF WORLD WARMLY WELCOME NOISES TO OUR WORLD WHERE THE LOUD NOISES ARE NORMAL TO US

classroom and beyond. This award was granted due to the Clerc Center's sustained commitment to a culture of continuous innovation where teachers, staff, and students infuse technology throughout their learning environments and at home to further

support learning goals.

Prior to the COVID-19 pandemic, the Clerc Center surveyed their teachers to determine what schoolwide technologies they wished to adopt to enhance classroom learning. There was an overwhelming consensus in favor of adopting an Apple approach to teaching and learning incorporated into the classroom. Teachers were each equipped with a MacBook Pro, iPad Pro, and Apple Pencil, while students were given iPad learning kits that extended their learning beyond the classroom into their homes or dorm rooms.

The Clerc Center embraces a progressive approach using Apple technology, leveraging the cutting-edge features, apps, and accessibility options offered by Apple devices. iPads and laptops have become dynamic tools for communication and collaboration for language learning and expression both

in English and American Sign Language and offer multiple avenues for applications in STEAM learning.

As an Apple Distinguished School, the Clerc Center sets

the standard for educational excellence and leadership. Its partnership with Apple empowers students to become confident, tech-savvy individuals who navigate the world with ease. The innovative technology seamlessly integrates with the curriculum, enhancing the learning experience and equipping students with the skills they need to thrive in a digital age. In the halls of the Clerc Center, the spirit of innovation permeates every aspect of the present-day learning environment. Educators and students alike embrace the convergence of education and technology, unlocking a world of limitless possibilities for deaf and hard of hearing learners.

The Clerc Center's commitment to innovation in deaf education continues to inspire educators worldwide as they harness the transformative power of Apple technology.

Learn more at *https://clerccenter.gallaudet.edu/apple-distinguished-school/*.

Reconstructing Deaf Education Systems to Attain True Equity for All Students

By Paddy Ladd

Dr. Paddy Ladd has devoted 50 years to helping reshape and improve the lives of Deaf communities and children. Beginning as a deaf youth social worker, he co-founded two deaf advocacy organizations (the National Union of the Deaf and the Federation of Deaf People) leading, inter alia, to the creation of UK Deaf TV and film and to governmental recognition of British Sign Language. Following his Powrie V. Doctor Chair in Deaf Studies at Gallaudet University, Ladd wrote *Understanding Deaf Culture—In Search of Deafhood* (translated into seven languages) and became a Reader in Deaf Studies at the University of Bristol before coining the concept of Deaf and Deafhood pedagogies.

Traditional Deaf cultures recognize Deaf and hard of hearing children as *whole* beings. Thus, when d/Deaf and hearing educators approach deaf education with this recognition, they equip children to function as bicultural citizens in both Deaf and Hearing 'worlds' as well as help them to understand that they have responsibilities for the next generations.

For over 100 years, however, most of the focus has been on advocating access to majority societies. The definition of "access" has largely centered around communication with hearing people using spoken language. Educational methodology has included, among other things, exclusive use of speech and hearing for communication, separating deaf and hard of hearing children, prioritizing interpreters in mainstream classrooms over giving deaf children full and direct access to all classroom communication in schools for the deaf. Meanwhile, the existence of Deaf communities and cultures, and the wealth of possibilities they offer for Deaf children, has often been overlooked or denied. The historical exclusion of Deaf people as educators of Deaf children exacerbated this problem.

Now that Deaf educators are welcomed into the profession, it is critical that they be involved in reframing the field—that is, taking a 'macro' perspective. However, in the current era, practitioners and parents all too easily find their time and energies subsumed into the many daily tasks in front of them—the 'micro' perspective.

> **Meanwhile, the existence of Deaf communities and cultures, and the wealth of possibilities they offer for Deaf children, has often been overlooked or denied.**

These numerous micro workplace situations inevitably distract both deaf and hearing educators from collaborating to develop that macro perspective. Deaf educators' work has therefore been focused on the ad hoc development of *informal* Deaf pedagogies. These presently constitute an "unrecognized curriculum."

Nonetheless, the development of those informal Deaf pedagogies represents a major achievement in the field by perceiving deaf and hard of hearing children as whole beings and equipping them with what they need to be productive members of society, to be bicultural and

bilingual (or multilingual) citizens of all the communities they inhabit. In support of this critical work, I have created a series of four books that map out pathways to elevate those informal Deaf pedagogies to that formal, macro level.

My books describe this pedagogical process as consisting of six 'levels' guiding Deaf children from pre-school through to graduation, utilizing at least 80 values, skills, and strategies. They begin with what I call "starting the cognitive engine" and continue through how to maximize potential and live well in all the worlds and communities in which they claim membership. They center around a holistic approach that means the skills and concepts in each level interweave and overlap *as deemed appropriate for each individual student.*

I also explain why successful adoption of "Deaf child as a whole being" pedagogies requires that programs be Deaf child-centered and Deaf-led, whilst also stressing the importance of Deaf-hearing collaboration. The books also provide an analysis of the values, skills, and strategies associated with those pedagogies. This exploration is valuable for all individuals, organizations, and institutions working with Deaf and hard of hearing children but can be especially valuable for hearing and d/Deaf educators who may have grown up without full access to Deaf cultures.

However, this is still not the whole picture. Deaf pedagogies have emerged from traditional Deaf cultures that (like all cultures) have their own internal differences. Issues of institutionalized racism, sexism, classism, disablism, divisions between d/Deaf and hard of hearing people, and so on remain to be confronted and tackled, so that *everyone* can make their own special contributions. So, I propose that the end goal is *Deafhood pedagogies*, where everyone, both d/Deaf and hearing, can formally examine their own lives and practices for inherited prejudices and privileges in reconstructing deaf education systems to attain true equity for all.

Other minority cultures, including Black, Native American, Latinx, and Māori peoples, have begun this process of reframing and reshaping the education of their children to produce more positive and equitable outcomes. It is long past time that we commit ourselves to do the same, collaborating with each other as *equals* in a challenging—but exciting—new beginning.

Eco awareness: *Odyssey* magazine is
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CLERC CENTER ONLINE COMMUNITY

We are delighted that you will join us for training, networking, support, and resources!

SCAN ME

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