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Right: An instructor in ERCOD's Family Signs program teaches a group class via computer.

Pioneering Program

Teaches Families Sign Language Through Tele-Intervention

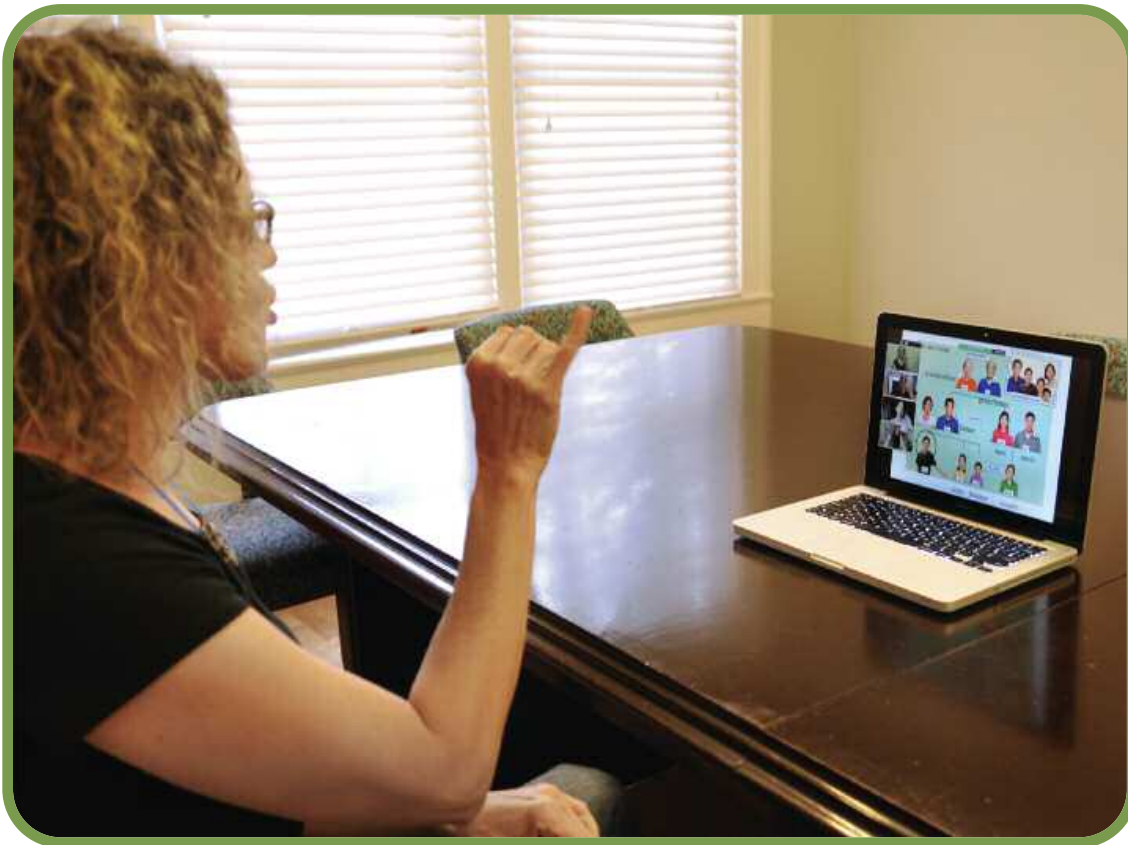
By Diana Poeppelmeyer and Lynn Reichert

Educators in Texas used technology to implement a pioneering program that teaches families of deaf children sign language through tele-intervention.

A West Texas grandmother, who has custody of her deaf granddaughter, drove the child 52 miles to the nearest day program for deaf students—104 miles round trip—every day. The grandmother wanted to learn the sign language that her granddaughter uses, and the school offered weekly evening classes. However, to take classes required not only tacking on the additional miles to commute but also rearranging the schedules and routines of the other children in her home. By the time the grandmother settled the children in the car, arranged for their care upon arrival, attended class, returned home, and got the tired children into bed, she had only a few hours before the next 104-mile trip the following morning. Her desire to learn sign language could not be fulfilled; reality presented too many roadblocks.

She was not alone. While many parents and guardians understand that communication facilitates their children's success, getting to a sign language class can be a major logistical challenge. Transportation time and cost, finding babysitters for

Photos courtesy of Diana Poeppelmeyer and Lynn Reichert



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siblings, scheduling, and understanding the language of instruction can be insurmountable barriers. Additionally, some school programs with limited resources may not be able to offer sign language classes at all.

The Educational Resource Center on Deafness (ERCOD) at the Texas School for the Deaf (TSD) has reached out to these families with a program we call Family Signs. This is our story.

Looking Back

TELECONFERENCING AND TEACHING OVER DISTANCE

In 2005, a mother in a small town north of Dallas contacted ERCOD. She had been to ERCOD's annual Family Weekend Retreat and returned home enthusiastic about expanded communication possibilities for her son, who was still a toddler. When she discovered sign language classes were not readily available in her community, she contacted us. Since TSD had

recently installed videophones campus wide, ERCOD staff decided to test this technology and accommodate the young mother, and we used videophone technology to teach her and her family sign language.

This was not the first time. The year before, we had tried to assist a family in a similar situation, but the family had no in-home high-speed Internet and the connection we set up in a nearby library resulted in a process too awkward to maintain. However, we learned from the experience, and with this second family in our pilot program, we required an in-home videophone. Once that was set up, the ERCOD instructor, who was certified both as a deaf education teacher and an interpreter, called weekly from her office in Austin to their home. For one year, the ERCOD instructor taught one-on-one classes via videophone for the mother, father, and hearing sibling of the 18-month-old deaf child.

The process and the teaching were successful. The deaf toddler was increasingly surrounded by family members who could communicate with him—and ERCOD had the beginnings of what is now Family Signs.

FAMILY SIGNS: SETTING UP A PROGRAM

Support for parents who wish to develop communication skills is critical. When parents have communication with their children, they are better able to express their concerns, expectations, and support. Bonding with children—and their social, emotional, cognitive, and linguistic development—depends on communication with those who love them. This transfers into better success in school. For deaf children in hearing families who choose sign language, this becomes problematic as their mothers and fathers typically do not already know sign language. Recognizing the lack of readily available sign language classes, we wanted to set up remote ASL instruction throughout Texas.

Initially Sorenson, a video relay provider, supported the program by providing videophones to 30 families throughout the state and a cadre of highly-qualified interpreters to serve as sign language instructors. Unfortunately Sorenson did not continue the program, and for three years ERCOD looked for other sponsors. Failing to find financial support, we ultimately turned to volunteer interns from Interpreter and Deaf Education Teacher Training programs in our state's colleges and universities. From 2009 until the spring of 2012, these students, who were advanced-level signers, served as teachers.

EVALUATION—AND UPGRADING

In 2011 we evaluated our program using the National Center on Hearing Assessment and Management's (2011) tele-intervention guide. This allowed us to do a side-by-side comparison of program components and showed that, with the exception of the use of professional instructors, Family Signs met the guidelines. The Joint Committee on Infant Hearing's (2007) position statement affirmed the importance of the role of professionals.

These documents gave us the impetus to pay professionals and to phase out volunteers. Our goal was high-quality service provision for Family Signs. In the spring of 2012, we added two paid instructors to our group of college and university volunteers. We immediately noticed that most families taught by the paid instructors requested to have their same teacher for the following semester. This was a good sign; not only did it

mean that our teachers were establishing positive personal relationships, but moving to paid professionals meant that we did not have to train new instructors each semester. By the fall of 2012, we had six paid instructors and had discontinued the use of volunteers (Poepelmeyer & Reichert, 2013).

The Program Today

SIGNS OF SUCCESS

Today Family Signs is flourishing. All our instructors are paid and have degrees or certifications in fields relating to interpreting, deaf education, or language development. Videoconferencing is now free, which makes it easier for families throughout Texas to use technology to bring a professional instructor into their homes. Since neither professionals nor parents need to travel long distances, scheduling is flexible, allowing classes to take place at a time that best fits the family's needs. From 2011-2013, the Family Signs program served an average of 93 family members per year.

To be eligible for the program, families must:

- live in Texas
- have a deaf or hard of hearing child between the ages of 0 and 21
- have high-speed Internet
- have a computer with a webcam or an iPad (if the family does not have a webcam, our program loans them one for the duration of the class)

The technology for providing classes constantly changes. Originally we used only videophones, but then Skype and ooVoo offered the same free services. Now Google+ Hangouts, FaceTime, and Zoom are all possibilities. We use them all—the program depends on what the family already knows or what offers the best quality for class. Classes may be either one-on-one or include up to three students per instructor. A single class can have participants interacting from four different parts of the state.

Some challenges remain, and we are moving to address most of them:

- *Some families do not have high-speed Internet in the home.* While in the past classes offered through the public library or school proved too complex to maintain, we have recently experienced success with a pilot program through Harris County Public Library in Houston. Our student is taking the class in the library, using Zoom videoconferencing on the library's iPad. Since Zoom only requires a one-time download of a browser plugin, it was

Bonding with children—and their social, emotional, cognitive, and linguistic development—depends on communication with those who love them.



Above: Students learn sign language from home, participating online in a group class. Tele-intervention makes classes more accessible to families.

relatively easy to implement. We plan to offer the same setup to other families in Houston who don't have Internet access at home.

- ***Fluctuating bandwidth sometimes diminishes video quality.*** Signing over the Internet using video applications such as Skype or FaceTime requires reliable bandwidth to and from each site, especially for uploading and downloading. The available bandwidth depends on the user service plan purchased from the Internet service provider, the type of connection, whether the connection is wired or wireless, and the competing Internet activities within the house, the neighborhood, and the rest of the Internet. A higher bandwidth is required when using signing than when using audio. Usually a minimum of 3 mbps (megabits per second) is required for clear signing. When registering for Family Signs, a prospective student is required to measure the bandwidth that he or she will use for class, but these numbers serve only as a guide. We deal with the families individually in creating solutions for bandwidths that do not meet minimal standards.
- ***Videoconferencing companies unpredictably change their interface.*** Though our instructors can coach the students through setting up and using videoconferencing programs, we cannot control if, when, or how often these companies

change their interface. When the student tries to sign in for class and a new interface causes the screen to look entirely different, the issue can take a full 30-minute class period to resolve. Since students average fifteen 30-minute classes each semester, losing a class to technology glitches can be problematic. To avoid changing interfaces, we are moving to Zoom, which allows the instructor to send a link to the student; the student joins the class through the link and does not need to deal with an interface.

- ***Some families use languages other than English or Spanish.*** We have two instructors to serve our Spanish-speaking families and more for our English-speaking families, but we are ill equipped to handle any other languages that may be used in a students' home.
- ***We would like to honor parents who use different signing systems.*** Since some regional day school programs for the deaf in Texas use Signing Exact English (SEE), we have one instructor who is SEE Center-approved.
- ***Some rural areas do not have high-speed Internet.*** This is the one issue we have not been able to resolve.

OTHER PROGRAMS—AND SATISFIED INDIVIDUALS

While we offer four semesters of sign language classes with the goal of building confidence and independence in sign language, the outreach implicit in this instruction allows us to share information about other programs that will allow students to advance their signing skills. These programs are:

- Remote Shared Reading Project—Via tele-intervention, this project tutors parents on how to read to their deaf or hard of hearing children.
- Communication skills workshop—The workshop comprises an annual summer ASL immersion week at TSD.

Additionally, we share information about:

- Texas Hands and Voices—The Texas chapter of the national organization offers support, information, and resources to families of deaf and hard of hearing children in whatever communication they have decided to embrace.
- Texas Guide By Your Side—This family support program embodies the mission of Hands and Voices.

Additionally, each semester approximately two families request to join our program but cannot because they live outside of Texas. Fortunately Family Signs is not the only program of its kind. A few other programs offer sign language to families throughout their states via tele-intervention. These include:

- Iowa School for the Deaf, Parent ASL Class (www.iowaschoolforbedeaf.org)
- Kansas School for the Deaf, Family Signs Kansas (www.ksdeaf.org)
- Maine Educational Center for the Deaf and Hard of Hearing, ASL for Families (www.mecdbh.org/parents/asl-for-families/)
- Deaf Mentor Program First Step, in Wisconsin (www.wespdbh.wi.gov/wesplout_deafmentor.cfm)

There are approximately 7,500 deaf and hard of hearing students attending school in deaf education programs and classes, private and public, throughout Texas (B. Pitts, personal communication, September 8, 2014). Learning signs through videoconferences is available for an increasing number.

Meanwhile, the grandmother who wanted so much to sign with her grandchild without adding a 104-mile drive to her week was finally able to use teleconferencing to take sign language classes from her home. She loved it, and today she constantly shares information about Family Signs. “Thank you’ will never be enough!” she told us. “I want to know [my granddaughter’s] every thought—her dreams, her feelings, *everything*. I truly can’t put into words what this program has done for me.”

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