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Signs, Graphemes, Books, Writing— and Lots of Joy: Embracing Bilingualism with Preschoolers

By Rachel Steingieser

As they clamor into our classroom, my 4- and 5-year-old students are conversing with each other—and already using two languages. It is April and the books, so bright and shiny in the fall, have a well-worn look after lots of reading and rereading. My deaf and hard of hearing students are in the pre-kindergarten classroom of Kendall Demonstration Elementary School. The students and I use American Sign Language (ASL) and English throughout the school day. The goal, of course, is a fully evolved bilingual environment in which the children become fluent in both languages.

As classes moved through the spring, I saw that this was indeed what was happening. Even Foresta*, who began the school year so timidly, is conversing excitedly with her classmates. When Foresta started class, she did not engage with me or the other students—not in our morning meetings, not in story time, not in any of the conversations that surrounded her. Mostly, Foresta observed the other children from a distance and played by herself. Her literacy knowledge was minimal; she only knew two of the seven letters in her first name.

For all my students, but perhaps especially for Foresta, a new bilingual teaching strategy helped her blossom, becoming more confident while at the same time experiencing a strong development in her literacy skills.

Photos by Matthew Vita and courtesy of Rachel Steingieser



Above: Steingieser’s preschool deaf and hard of hearing students learn and use ASL graphemes to develop their English literacy skills.

Graphemes—New Teaching Strategy

For generations, classroom English teachers have exploited knowledge of English phonemes to teach hearing children. I am one of the first teachers, to my knowledge, to exploit the strategy of using ASL graphemes to teach deaf and hard of hearing children.

Just as English and every spoken language can be broken into discrete units, ASL and every signed language can be broken into discrete units. The discrete units of spoken language are phonemes, a combination of the sounds that comprise the language. The discrete units of signed languages are graphemes, a combination of aspects of hands and body (e.g., handshapes, palm orientations, positions, movements, expression, non-manual signals) that comprise the language. Just as the sound “tah” alone is not a phoneme, the handshape “five spread fingers” is not a grapheme. “Tah” or “t” must be combined with at least a few more letters (e.g., *t-ow* or *t-op*) to make a phoneme. The same occurs for the handshape “five spread fingers,” which must be oriented in space to become a grapheme. Alone and in a certain position, “five spread fingers” on a single hand constitutes the sign *five*, of course. However, on the forehead, the handshape means *father*; on the chin, it means mother. Combined with a second five-handshape and in motion, it can mean *rain* or *wind*.

ASL is a visual language, and I introduced the concept of graphemes with an illustration (Ocuto, 2015). When the children arrived to class, they encountered a bright and bursting rainbow on the board. I used the colors of the rainbow to help students categorize ASL graphemes. Categorization by color reinforces learning. The colors of the rainbow and their categories of signs and graphemes are:

- **Red**—Signs are made on the forehead for written words such as *if*, *dad*, and *sick*.
- **Orange**—Signs are made at the chin, mouth, or nose for written words such as *mom*, *is*, and *caring*.
- **Yellow**—Signs are made at the chest for written words such as *I*, *have*, and *bat*.

Additionally, **green** is the color for hands—for *school*, *pencil*, and *paper*. **Blue** is used to designate neutral parts of the body, not touching any body part, for signs such as *why* and *many*.

After the children mastered the concept of graphemes, I introduced the color **purple** for what linguists call lexicalized fingerspelling—signs that may have

originated in fingerspelling but are now abbreviated and stylized and are considered signs, such as *of*, *back*, and *bus*. Further, pictures are matched with signs, and pictures, signs, and colors are matched with colors selected from the rainbow.

Allen et al. (2014) have shown that such exposure to a rich language environment during the early sensitive period of children’s development contributes significantly to their later literacy and academic achievement. Still, it is not enough for children to only have a rich environment in which they use two languages. Polio and Shea (2014) showed that when deaf and hard of hearing children did not receive strategies to help them move from one language to another, they could get overwhelmed with the myriad of structures in speech, writing, or signing. Andrews et al. (2004) shared the advantages for the developing child to be bilingual; there are cognitive, social, and developmental benefits. ASL graphemes and colored categories for handshape holders provide a great tool—we call it a bridging strategy—to help students move from one language to another. So, in addition to the pictures and signs, I also display the English words. The words are also color-coded to match the graphemes from the colors of the rainbow. Students are exposed to all three—the picture, the sign, and the color-coded word—and expected to bridge from one language to the other throughout the day.

Signs to English

In the fall, students learned two to three new words in ASL and English every week. That number increased as the year continued, and by spring, they were learning five to seven new words every week. As each new word was introduced, we moved from ASL to English in four steps:

1. The students were introduced to new words through presentation on a large computer screen. Each word appeared individually in print with a picture that illustrated its meaning and its ASL grapheme—the handshape, position, location, and orientation with which the word is signed. Printed words were color coded to match the ASL grapheme. For example, as we did our weather unit, students saw a picture of falling rain; the ASL grapheme for the sign *rain* (e.g., two open “five spread finger” handshapes) color coded blue to



Above and right: For a unit on weather, Steingieser’s students learned ASL graphemes for “rain” and “wind” as well as the English words in print.



show the location of the sign; and the printed word *rain*, also color coded blue to match its ASL grapheme.

2. Students fingerspelled each new word and discussed its meaning. The picture, ASL grapheme, and printed word were displayed in the classroom with the other words they have been learning. As the week progressed, students used their new words in a variety of ways.
3. Midweek, the picture and the ASL grapheme were removed, leaving only the printed English word. The word remained the color of the ASL grapheme to remind students of the handshape, position, and location of the sign. In the case of *rain*, the printed word remained blue.
4. By the end of the week, only the English word, now printed in black, remained.

This process is only part of learning new words in two languages, however. Students fingerspelled their new ASL and English words and used them in stories, quickly making the connection between print and fingerspelling. We read books

that included the words, and we recorded the words in ASL by taking pictures of the students signing the word and posting the pictures in the classroom. Students wrote and illustrated the English words, and their work was also posted. For example, to reinforce *rain*, we asked students to draw a picture showing some aspect of *rainy*, and we took a picture of them signing *rain* and posted the pictures on the board. Eventually, we exchanged the picture of them signing with the English words. Then only the English words in black remained.

Art is especially helpful in the preschool bilingual class. We have created ASL graphemes rhythms and rhymes videos. In the video, the background color changes to indicate the correct location for the word when we sign it.

Student Response Growth in Confidence and Literacy

It warms my heart to see how our students have responded. After three months, Foresta saw her literacy skills grow. Soon she could fingerspell and write her own name and the names of most of her classmates. She knew her alphabet and recognized uppercase and lowercase letters. She fingerspelled printed words, identified printed words, and was able to work without a model. Most of all, she radiated confidence. No longer withdrawn, Foresta engaged in conversations with her classmates—often initiating the conversations



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and telling witty jokes.

Foresta's classmates have responded similarly. Recently, a mother approached me to report how she had noticed her child's growing literacy. Previously, the child had shown no interest in words or reading. His mother shared that now he enjoys reading books independently. Further, he was responding to print in the environment, drawing his mother's attention to it, fingerspelling the words he saw, and sometimes informing his mother of what the word meant, other times asking her, "What does [*fingerspelled word*] mean?"

It is amazing to see my students' growth. Their confidence has evolved from fear of giving the wrong answers to taking risks by sharing their thoughts and comments. They are so confident that they have become each other's teachers, correcting each other when incorrect handshapes or locations are used or when a printed word is read incorrectly. In my classroom, students' hands are often raised proudly in the air; they are ready to share their knowledge.

The strategy of teaching ASL graphemes and using graphemes to develop English literacy skills has proven successful on so many levels. When kindergarten starts next year, my students will be ready!

**Foresta is a pseudonym used to protect the student's privacy.*