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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

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.

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(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 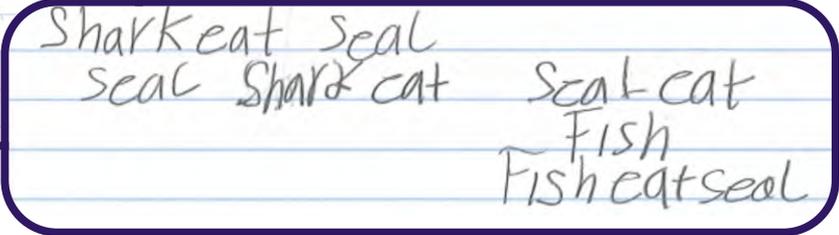signed and spoken languages. However, within a single academic year of receiving SIWI, both students showed growth. One student, aged 10 years and 8 months, went from responding by drawing when asked to write at the beginning of the academic year to writing words and letter strings at the end of the 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
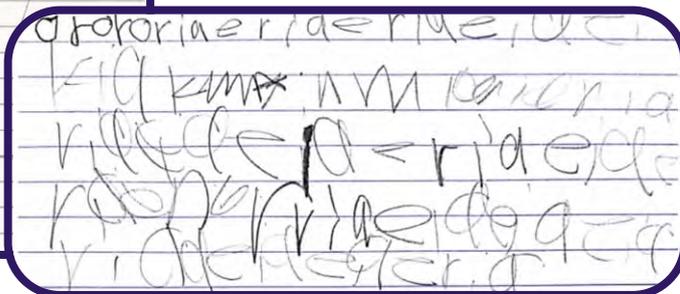
Left: One 10-year-old student progressed from drawing in the fall to writing words and letter strings by the end of the school year while receiving SIWI.
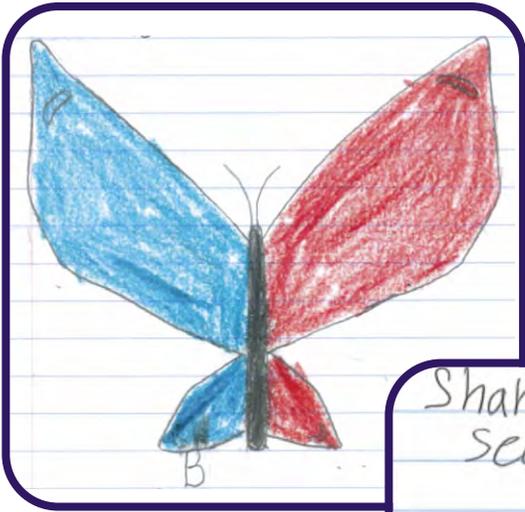
Left: Another 10-year-old student progressed from labeling drawings with the initial letter of a word in the fall to writing words and phrases by the end of the school year.

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 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.

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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