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Across All Settings:
Fostering Environments Rich in Language Comprehension

By Sarah Brandt, Maddy Gibson, and Amy Szarkowski

In line with current recommendations (Garberoglio et al., 2019), the authors use the term 'deaf' inclusively to refer to audiologically deaf, culturally Deaf, and hard of hearing individuals, while 'deafdisabled' refers to those who are deaf, Deaf, or hard of hearing and have one or more disabilities.

For deaf children—as for all children—exposure to a language-rich environment is a cornerstone of developmental and educational opportunity. An environment rich in language promotes natural, direct, and responsive communication (Mugweni, 2019) and contributes to building a language comprehension foundation. Language comprehension is tied to literacy development, which in turn impacts life skills, independence, and postsecondary employment (Donnellan & Mathews, 2021).

Some deaf children acquire and apply language naturally through daily experiences, conversations, and interactions in an accessible first language. However, some deaf children, including those children who have experienced language deprivation (Hall et al., 2017), those with insufficient early language access (Szarkowski, 2018), and those who are deafdisabled (Guardino et al., 2022), may benefit from explicit strategies that transform language-rich environments into language comprehension-rich environments. These environments explicitly foster the development of language comprehension skills to support learners who do not yet possess the language foundation "to learn through language."

Professionals in our setting—The Children's Center for Communication/Beverly School for the Deaf (CCCBSD)—embed foundational language comprehension strategies within language-rich environments. This occurs in traditional classrooms as well as in a variety of other settings, such as therapeutic services, programs in related arts (e.g., art, music, physical education) and STEAM (science, technology, engineering, the arts, math), and community-based activities. Professionals in these

Photos courtesy of CCCBSD

Above: A student plays basketball during a schoolwide tournament, building both background knowledge and categorical understanding of sports-related concepts.

settings strive to make their learning environments not just language-rich but also rich in fostering the development of foundational language comprehension skills.

The Foundations of Language Comprehension

Language comprehension consists of many elements, such as understanding vocabulary, inferencing, and monitoring meaning (Oakhill et al., 2019). For learners without a strong language foundation, exposure to a language-rich environment may not be sufficient to develop these skills. For these learners, foundational language comprehension skills may need to be explicitly taught. According to DiPerri (2013), foundational language comprehension skills include:

- **Background knowledge**—The knowledge created as children experience the world, integrate and organize new knowledge, and develop critical thinking skills.
- **Negation skills**—The ability to say "no," identify when something is incorrect, or indicate if something does not make sense.
- **Categorical understanding**—The awareness of relationships among concepts, including significant attributes and identification of objects that contribute to them belonging or not belonging in the same group.

These foundational language comprehension skills are highly related to one another. For example, if students understand the categories "fruit" and "dessert" (*background knowledge*) and try brownies for the first time, they need to determine that brownies do not fit in the "fruit" category (*negation*) but share characteristics with other sweet food items, placing them in the "dessert" category (*categorical understanding*). This is how experiences become background knowledge.

Education professionals can use these

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Left: Language comprehension—and fun—are both a big part of physical therapy in the pool!

concepts to design environments rich in language comprehension to support all deaf learners. At CCCBSD, all professionals—including teachers, teaching assistants, related service providers/therapists, and specialists—participated in professional development on building language comprehension across contexts. The following examples illustrate how CCCBSD professionals supported students by fostering language comprehension-rich environments in a variety of settings.

Strengthening Negation
In Physical Therapy

Therapeutic service providers, including speech-language pathologists, occupational therapists, and physical therapists, bring unique discipline-specific knowledge to a child's educational team. While therapists typically address a child's goals related to their area of service, there are also benefits to addressing language comprehension skills during therapy; teachers can create opportunities for vocabulary growth, social connectedness, and community belonging (Gillon et al., 2020; Grajo & Gutman, 2019).

Eileen Tran, a physical therapist who supports CCCBSD students from 3-22 years of age, incorporates activities to strengthen the concept of negation in her practice, believing this is critical to student autonomy, independence, and safety. Given the complex physical needs of some of her students, hands-on support is often required. Tran fosters her students' ability to apply their negation skills by encouraging her students to indicate their preference for where and when activities take place or ask for a different or modified activity. For example, a student may be given the option to use a stander during a math activity or during reading or to select between the use of a treadmill or a stationary bike to complete an exercise routine. By giving the students more control over how and when they engage in physical therapy services, Tran promotes the development of a powerful skill that directly supports language comprehension among her deaf learners.

Focusing on Categorical Understanding
In Physical Education

Benefits of participation in related arts and STEAM include gains in vocabulary, comprehension, reasoning, creativity, critical thinking, collaboration, and interpersonal communication (Gordon et al., 2015; Wahyuningsih, 2020).

After learning about the role of foundational language comprehension, adaptive physical education teacher Shannon Morris focused on supporting the development of *categorical understanding* for her deaf students. "I knew we were doing a great job of introducing conceptual language through movement," she said, "but I wanted to find another way to provide access to literacy." To achieve this, she created a communication word wall that included laminated, removable cards with language and symbols related to adaptive physical education class. Each set of symbols is categorized by its function within an activity, such as requesting (e.g., wait, break, stop, go) or commenting (e.g., like, don't like). The word wall supports learners' *categorical understanding* by illustrating how various responses go together, and this understanding can then be applied throughout the class.

Developing Background Knowledge

In the Community

Community-based instruction promotes meaningful learning for students in authentic contexts and contributes to successful postsecondary outcomes (Walker et al., 2010). While this instruction is focused on the development of life skills, such as making purchases or promoting safety, helping students develop foundational language comprehension skills can also be embedded in community-based programs, such as transition.

Transition coordinator Alexandria Gullage designs community-based learning opportunities for students 14-22 years of age. She noted that learning about language comprehension was "insightful, comprehensive, and practical," particularly because it "highlighted the importance of considering academic content that will increase our students' independence." Gullage was struck by the importance of *background knowledge* for her transition-age students. "To support our students in the community, background knowledge must be built. One way to do this is through a thematic approach to instruction. For example, students explored a theme on retail stores and built background knowledge on different types of clothing." With this background knowledge, students engaged in tasks such as selecting clothing items based on an activity (e.g., job interview versus lunch with friends), clothing care (e.g., laundering and storing clothing), and clothes shopping (e.g., locating items in a store based on category). Gullage's experience illustrates that even in a nontraditional learning space like the community, students can address foundational language comprehension skills.

Above: A student in adaptive physical education class practices negation skills by making choices about preferred activities.

Above: While on a community outing to a farm, a student develops background knowledge that can support future learning opportunities.

Comprehension at the Foundation

Engaging the World

A solid foundation in language fosters the ability to understand and engage with the world. Without it, students face challenges in health outcomes, cognition, social-emotional skills, school readiness, and academic success (Hall et al., 2017). While many deaf learners acquire foundational language comprehension skills through daily interactions, this may not be true for all learners, particularly those with limited language

Right: A language comprehension-rich environment extends beyond the classroom, such as to instruction that occurs in the community.

access and those who are deafdisabled. For these students, foundational skills may need to be taught. Training educational professionals throughout the school to recognize opportunities for developing these skills promotes not just a language-rich environment but one that is language comprehension-rich.

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