Let's Talk:

Semantics

What is Semantics?

● The **meaning** of words and sentences

I thought you had a pet bird?

This IS a bird!

Hi!
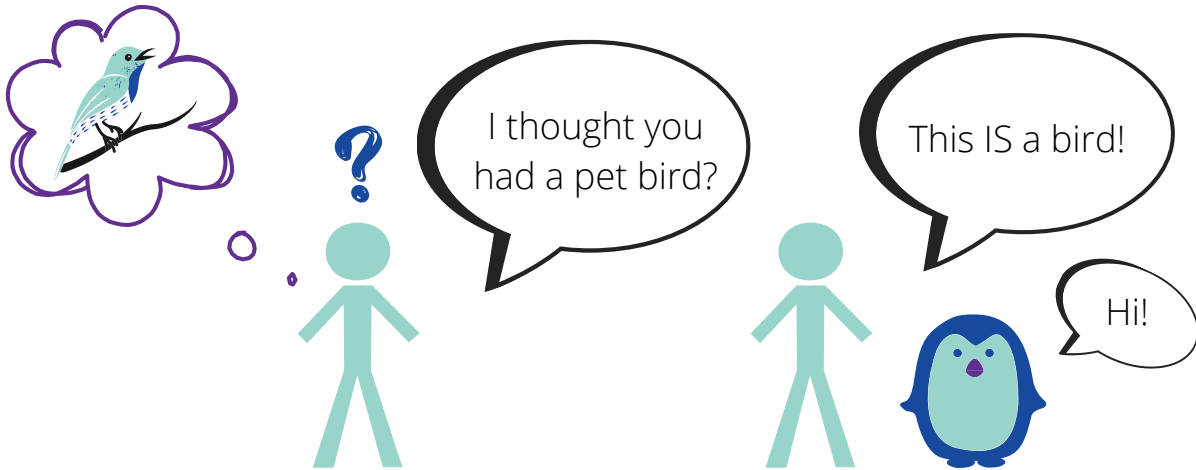
FACT:

Children with hearing loss who are developing spoken language tend to have delays in **semantic richness** (number of vocabulary words they know) and **semantic fluency** (ability to accurately use the right word/relate them to one another) as compared to children without hearing loss. [1,2]

WHY might this be?

● In 2020, the U.S. Food & Drug Administration (FDA) lowered the minimum age that children can receive cochlear implants in the U.S. to **nine months old**. At a minimum, children with hearing loss have to catch up on nine months of learning new words.[3]

● Children with hearing loss display difficulties with some of the subprocesses of word learning:
  - **Triggering** = recognizing that a word is a NEW word [4]
  - **Engagement** = combatting listening fatigue and effort in potentiall noisy environments [3]

● Some recent studies are showing that children with hearing loss may **use different organizational strategies to mentally store words and their meanings.** As a result, they may have difficulty in traditional school settings where new words are taught through traditional categories and/or phonological relationships (how the meaning relates to the letters/sounds in the word).[3]

How do children learn new words?

The "Blowfish" Effect!
If a child sees a picture of a blowfish (an atypical representation of a 'fish') paired with a novel word (like 'pak'), they tend to think that a 'pak' is a TYPE of fish--not a new category! Just like adults, children learn new words by thinking first within the categories they know, showing that children have a heavy reliance on known vocabulary to build new vocabulary.[5]

What can families and teachers do to help children with hearing loss develop semantic language skills?

● **Use Context Clues!** Research from our own lab at the University of Maryland, College Park has shown that **children with cochlear implants use semantic information from other words in a sentence to guess a word's meaning** instead of guessing from other words that sound the same. For example, children with CIs were read the sentence "The dad reads the green book," and given pictures to identify the word 'book'. They preferentially chose the picture of a book over the picture of a bush even though the two words may sound the same to a child with a CI.[6]
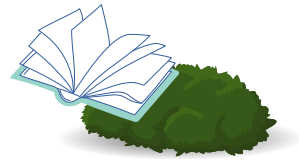
Try to use specific, related words when using an unfamiliar word to **give a semantic hint!**

● **Add On!** Children with hearing loss tend to perform better in vocabulary tests when they know a LOT about the word in question. Similar to using context clues, it makes it easier for a child to recognize new words when there is **extra visual/auditory information** to cement the meaning--not just relying on a single auditory memory.[7]

When introducing new vocabulary words, **try showing pictures and/or describing the object/action/etc.** For example, "firetruck" can be taught with pictures of the truck and a sound clip of the siren!

● **Exaggerate Tone!** Did you know that children with cochlear implants listen to music differently than children with typical hearing do? They listen for a tempo change rather than a mode change (changes in key or pitch) to tell if a song is 'happy' or 'sad'.[8] This applies to speech too! Children with cochlear implants **have more trouble determining meaning from tone** than children with typical hearing.[9]

Try **exaggerating your tone** when speaking with the child; this gives them more of a chance to learn affective information (how we feel about something) about new words.

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