Preschoolers say the darnedest things!

[Touches a picture of fire] “Ouch! That’s hot!”
Experimenter: “Can you tell me what an accent is?”
Child: “It’s like falling or running into each other.”
“I speak uno, dos, tres”
Experimenter: “Can you tell me what languages you speak?”
Child: “Letters!”
“When I was three I turned four!”
Experimenter: “Are those words the same or different?”
Child: “Same and different, yes”
“I used to be four, but now I’m five. Life goes by so fast”
Experimenter: “Can you tell me what languages you speak?”
Child: “I speak in rainbows!”
A Message from Dr. Creel:

How many words can children learn at a time? Many scientific studies on young children's word learning teach them only a pair of words. Obviously, this isn't realistic! We've started asking whether word learning gets harder for children if they have to learn more words at a time. We figure this out by asking children to learn made-up words, like "deev" or "vush", for pictures of cartoon animals. (We use made-up words so that we can be sure children didn't know the words already.) It turns out that if children are learning four words, they are about as accurate as when they are learning just two words. That is, more words isn't necessarily harder. What does make it harder to learn words is if some of the words sound similar to each other.

We are also very interested in how children learn letter names. Letter names are a special type of word learning, in that knowing letter names helps children learn letter sounds to sound out words. So we have been conducting word learning experiments where children learn names for letters from an unfamiliar alphabet (Armenian script). Children can learn these names for letters, but they are less accurate than when they learn names for cartoon animals. This is probably because the unfamiliar letters are more visually similar to each other than the cartoon animals are. Since letter names in many languages also sound similar to each other, they may present a very challenging, but ultimately rewarding, set of materials to learn. We can now move on to explore learning sciences techniques that may speed up letter name learning.

Lab Members for Preschool Studies:

Dr. Sarah Creel:
Dr. Creel was an undergraduate at the University of South Carolina before going to the University of Rochester for a PhD, and the University of Pennsylvania for postdoctoral work. Her interests include the development of word recognition, specificity in acoustical representations, and the role of top-down knowledge in music perception and enjoyment.

Reina:
Reina is a fourth year PhD student in the Cognitive Science Department. Having grown up as a Spanish-English bilingual, she is interested in bilingual language processing in preschool-aged children and adults. She explores the different types of cues bilinguals use to facilitate bilingual language learning and understanding the mechanisms involved in regulating dual-language activation. Her research makes use of eye-tracking and behavioral techniques. Outside of the lab, she enjoys reading, cooking and taking walks.

Kristie:
Kristie received a BA from SDSU in Linguistics, an MA in Italian studies from Middlebury College, and her PhD from UCLA, with a specialization in laboratory phonology, the phonetics-phonology interface, and Italian Linguistics. Kristie was a Fulbright Scholar at the University of Naples, Italy. After leaving UCLA, Kristie studied Speech Science and Communication Disorders at Cal State Northridge. She has taught Linguistics, Italian, Spanish at UCLA, Cal State San Marcos, Pasadena City College, and MiraCosta College.
Lab Members Continued

Jean:
Jean is originally from Riverside, CA but has lived in South Korea for 9 years during her lifetime. She is currently a third-year undergraduate student majoring in Cognitive Science. She is mainly interested in second language acquisition and social learning in children and hopes that through her research she can advocate bilingual education in near future. Other interests outside of school include piano and golf.

Connie: Connie is a fourth-year undergraduate student majoring in Linguistics. Her main interests are second language acquisition and differences in bilingual and monolingual language processing. In lab, she enjoys working with speech data using Praat and running eye-tracked experiments with children. Outside of lab, she enjoys video editing and listening to BTS.

Jose:
Jose is a third-year undergraduate student at UC San Diego originally from Arizona. He is currently on track to graduate in Spring 2021 with a BS in Cognitive Behavioral Neuroscience, a BA in Cognition and Language, and a Minor in Music. His primary focuses are Computational Linguistics and Cognitive Neuroscience. Apart from his studies Jose is also a devoted musician, having learned 5 instruments and playing in multiple ensembles every quarter, and is currently a Student Manager at one of the catering units on campus.
Did you know that approximately 1 in 5 people in the US speak a language other than English at home (U.S. Census Bureau, 2015)? This means that a large number of children in the U.S. are exposed to more than one language from birth.

Yet, most things we know about how children learn language don’t explicitly tell us how children learning two languages are able to learn them so easily. So how are children learning two languages at the same rate as one? Do they even know that they speak two languages? How do they decide which language to speak at any given time? While several studies have shown that children are able to learn two languages just as easily as [only] learning one, it is unclear how children are able to tell apart two languages. We attempted to address this question by studying whether children associate languages with individuals (e.g., Grandma speaks Spanish, Ms. Teacher speaks English).

In the first experiment, Spanish-English bilingual and English monolingual children, ages 3 to 5 years old, were introduced to a Spanish-speaking character and an English-speaking character. After, children were shown both characters on the screen while listening to a novel sentence in either language (Spanish or English) and were asked to point to the character they thought was speaking (“Can you show me who said that?”). If children are able to differentiate between the two languages, then they should be able to know who is speaking (English speaker vs. Spanish speaker).

Results showed that both bilingual and monolingual children were able to tell apart the English speaker from the Spanish speaker. This supports the idea that young children are able to associate people with specific languages. For bilingual children, this might be what is helping decide what language to speak at any given time.

You may be wondering whether having not only different languages, but also different voices matters.

In the first experiment the Spanish speaker and the English speaker had different voices, so it could be that children rely on how different voices sound to tell apart two languages. In the second experiment, we studied whether English monolingual children (3 to 5 years old) were telling speakers apart based on voice and language differences. To test this, we recorded Spanish-English bilinguals in both languages to have the same voice speaking in English and in Spanish.

After being introduced to a Spanish-speaking character (Voice A) and an English-speaking character (Voice B), the voices switched languages (Voice A – English, Voice B – Spanish). After the switch, children were asked to identify who was speaking. If they were paying attention to the language, and not the voice, then regardless of what voice they heard speaking English, they should pick the character they were introduced to in English. Results from this study showed that children were paying attention to the language and not the voice. This tells us that the language someone speaks is a strong cue for recognizing a speaker.

The last question we wanted to investigate was whether children could tell apart two languages they don’t know. In a third experiment, we tested whether 3 to 5-year-old English monolingual children could differentiate between a Spanish-speaking character and a Mandarin-speaking character. This study was similar to the first one in that children were introduced to the two characters (one Spanish, one Mandarin) and were then asked to pick who they thought was speaking while listening to a sentence in either language. Results showed that children were not able to correctly identify the Mandarin speaking character when listening to Mandarin or the Spanish speaking character when listening to Spanish. This finding suggests that while children are very good at identifying their own native language, being able to identify two unknown languages is something that might develop with age and/or increased exposure to other languages.

These studies begin to answer important questions about what children know about the language(s) they speak and how they might use that information in language comprehension.

Thank you to the preschools that make our research possible!

St. Michael Academy ◊ Real Education Enrichment Academy ◊ San Diego Jewish Academy ◊ La Petite Ecole ◊ Jump Preschool ◊ Sorrento Valley Children’s Center