

Study finds potential key to learning a new language

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A new study by University of Houston (UH) researchers may lead to dramatic changes in the way language is taught and learned – especially a second language. These findings are important because statistics show 60 percent of the children in the Houston Independent School District are non-native English speakers, a category on the rise across the United States.

Arturo Hernandez, director of the developmental graduate program in psychology at UH, used [neuroimaging methods](#), as well as behavior techniques, to investigate [language](#) acquisition in the bilingual brain, mapping how the bilingual brain processes [language acquisition](#) and observing how it changes over time.

"There is a lot of interest in the brain and interest in bilingualism, but few people put those two together," Hernandez said. "People used to think of the mind as separate from the brain. Now, they understand that what happens in the mind is the product of what the brain does."

Hernandez, who also serves as director of the Laboratory for the Neural Bases of Bilingualism at UH and is the author of a new book, "The Bilingual Brain," said recent research explores whether bilinguals have more plasticity and adaptability because they have learned two sounds systems and can learn vocabulary words better than monolinguals. He wondered whether could they learn a third sound system better.

To find out, a UH post-doctoral researcher Pilar Archila-Suerte teamed

up with Hernandez and Ferenc Bunta, assistant professor in communication sciences & disorders who specializes in bilingual phonological acquisition. The research team selected Hungarian sounds the participants had never heard before, and that neither resembled Spanish nor sounded like English, to establish a level playing field for monolinguals and bilinguals.

The researchers found that half the bilinguals and monolinguals could learn the sounds and half the bilinguals and monolinguals could not. When the researchers looked at the "good perceivers" (those people who could learn the sound the first time they heard it), they discovered that they used speech areas of the brain to process sounds. And, those who were "bad receivers" did not. This suggested that "good perceivers" are better at perceiving speech, even speech they've never heard before.

"In our study, we found people that seem to be intuitive about the sounds, independently of how many languages they speak," Hernandez said. "That could serve as a predictor of whether someone could learn another language more easily or not. That was an eye opener for me because I feel like now we are starting to find different factors that predict the ability to learn different things. Now, the question is how we put this together."

Hernandez said the long-term goal is an educational outcome that would help change the way to teach language to people, specifically a second language.

"I would hope the results of this research would allow us to dramatically change the time at which we introduce a second language and the method that we use, such as a stronger emphasis on learning the sounds of a language rather than learning vocabulary and memorizing it for a test."

Provided by University of Houston

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