Research Spotlight

Did you hear bee or pea?

Dr. Dan Hufnagle and Dr. Lori Holt are investigating how children learn sound categories. In Session 1 of this game, children hear a friendly space alien who is learning how to say words correctly. The children help the alien learn how to say bee and pea. Then, they hear those words many times and tell the experimenter which word they hear. Sometimes the sound is ambiguous (acoustically between “bee” and “pea”). In cases like this, adults rely on pitch as a clue. The experimenters are testing whether kindergartners similarly use pitch to disambiguate sound categories like “b” and “p” as a means of understanding how native language speech sound categories develop across time. The data from this session will establish a baseline for how strongly pitch affects the child’s responses. Adults judge a sound to be more “bee”-like when it has a lower pitch, all else being equal. A follow-up session then tests how sensitive children are to changes in pitch, such as those that might be encountered in listening to a person with a nonnative accent.

During Session 2 of this game, children hear bee and pea many times and tell the experimenter which word they hear. As in Session 1, sometimes the sound is acoustically ambiguous between “bee” and “pea”. The goal of Session 2 testing is to understand how kindergartners learn the cues that make up sound categories (like “b” and “p”) and how those categories develop across time. Session 2 emphasizes and de-emphasizes pitch to test how quickly children learn new patterns of how the secondary pitch cue relates to the sound categories. Adults learn to adjust perception very quickly when pitch varies, but psychologists do not yet know whether this quick learning is present early in language development. In an earlier experiment with different sounds (deer and tear), the same researchers found that pitch strongly influenced how children perceive ambiguous dear/tear sounds, but children did not learn to adjust the mapping of pitch to sound category when it varied in the experiment. In this follow-up study, the experimenters emphasize pitch more and use sounds for which adults are more sensitive to changes in pitch (“b” and “p”). Understanding whether children are able to flexibly remap how sound cues relate to speech categories will help psychologists understand the nature of auditory perception and language development.

Kindergarten Collection for Japan Relief

During March, the Kindergarten studied the culture of Japan. In that context, they discussed the earthquake & tsunami and then decided to collect money to support the relief efforts. During their unit, they collected (and counted) $100.06 to give to the Japanese Student Association (JSA) on campus for sending to the Japanese Red Cross. Thanks to all the children and families who contributed to this donation!