Babies able to tell through visual cues when speakers switch languages

At four months, babies can tell whether a speaker has switched to a different language from visual cues alone, according to a University of British Columbia study.

Researcher Whitney Weikum found that infants are able to discern when a different language is spoken by watching the shapes and rhythm of the speaker's mouth and face movements.

The findings suggest that older infants, raised in a monolingual environment, no longer need this facility. However, babies growing up in a bilingual environment advantageously maintain the discrimination abilities needed for separating and learning multiple languages.

In a paper to be published in the May 25 issue of the journal *Science*, Weikum explores whether babies use visual speech information to tell the difference between someone speaking their native language(s) and an unfamiliar language. Weikum is a UBC Neuroscience doctoral student working with Canada Research Chair and Psychology Prof. Janet Werker.

The researchers tested three groups of infants – ages four, six and eight months – from monolingual English homes and two groups of infants –ages six and eight months – from bilingual homes. They showed each group silent video clips of three bilingual French-English speakers, who recited sentences first in English or French, and then switched to the other language.

Their findings suggest that visual information alone will prompt the babies at four and six months to pay closer attention and watch the video for a longer period when the speakers switch languages.

"We already know that babies can tell languages apart using auditory cues," says Weikum. "But this is the first study to show that young babies are prepared to tell languages apart using only visual information."

The researchers found that six-month-old babies from both bilingual French-English and monolingual English homes could tell the languages apart visually. These groups would watch the video clips for a significantly longer period if the speaker switched languages.

However, by eight months, only babies from a bilingual French-English home and familiar with both languages were able to tell the languages apart visually.

"This suggests that by eight months, only babies learning more than one language need to maintain this ability. Babies who only hear and see one language don't need this ability, and their sensitivity to visual language information from other languages declines."

Source: University of British Columbia