The Infant Studies Centre is in UBC’s Department of Psychology and has been open for more than 30 years now! We are directed by Dr. Janet F. Werker, Professor and Canada Research Chair. Dr. Werker – along with her team of graduate students and postdoctoral fellows – studies the amazing process whereby infants acquire one or more languages in the first few years of life.

The Director of our Centre, Dr. Janet F. Werker, recently received a research grant from the Social Sciences and Humanities Research Council (SSHRC) to study the influence of linguistic and cultural context on infant language development.

Culture and language are intimately related in the adult. It is not known when culture and language first become mutually influential. In this newly funded work, we ask if, when, and how infants use the cultural context surrounding them to differentially activate attention to (or use the properties of) the different languages they are learning.

We hope that this research will lead to a deeper understanding of first steps in bilingual language development, helping to determine if and when other aspects of culture (e.g. clothing, music, dance, etc.) support bilingual acquisition. These studies are currently ongoing at our Centre!

We recently investigated whether monolingual and bilingual babies have different expectations about the meaning of new, unfamiliar words. We chose to study 18 month olds because this is a period during which infants begin to rapidly learn new words. Our previous research shows that monolingual infants tend to assume that there exists one word for each object, but bilingual infants do not make this same assumption. This is likely because bilingual infants are frequently encountering multiple labels for the same object – one label from each of their languages (e.g. an English-French bilingual would learn two words for dog: ‘dog’ and ‘chien’). In this study, we investigated how infants interpret a new, unfamiliar word (e.g. ‘zabe’) when encountered in the presence of a familiar object (e.g. image of a dog) for which they already know a label (e.g. they know the word ‘dog’). As we expected, bilingual infants interpreted the unfamiliar word as another label for the familiar object (e.g. zabe as another word for dog). In contrast, monolingual infants showed evidence of interpreting the word as a property term (e.g. zabe as the colour of the dog). Thus, both bilingual and monolingual infants are able to acquire new word meanings, but they do so in systematically different ways – even before their second birthday!

The Social Sciences and Humanities Research Council (SSHRC) recently awarded Dr. Janet F. Werker, Director of our Centre, the Gold Medal Impact Award! This award is in recognition of her ground-breaking research on language acquisition. Her work has shown that the foundations of language begin in early infancy, and that acquiring two or more languages from birth is as natural as acquiring one!
We recently completed and published a study at our Centre with very exciting results! We found that inhibiting babies’ tongue movements interferes with their ability to distinguish between similar speech sounds. This study is the first to discover a direct link between babies’ own oral-motor movements and their auditory speech perception.

In the study, 6 month old babies listened to two different Hindi “d” sounds that we know, based on our previous research, babies of this age can usually distinguish easily. Some of the babies held in their mouths a teether that inhibits tongue movement (a ‘flat’ teether) and some of the babies held a teether that does not inhibit tongue movement (a ‘u-shaped’ teether). As we predicted, when the teether restricted tongue movement, the babies were no longer able to distinguish between the similar Hindi speech sounds. But when their tongues were free to use, they were able to make the distinction. This research demonstrates that future studies of speech perception in infancy should include the oral-motor system as well, rather than focusing only on the auditory system. These findings also have implications for speech perception in babies with motor impairments of the mouth, such as a cleft palate, tongue-tie, or paralysis.

We just recently began a follow-up study at our Centre to further explore how speech perception can be influenced by babies’ movement of their own lips and tongue. We are looking for 5-6 month old babies to participate!

People make all sorts of facial gestures when they talk to one another. Research currently underway at our Centre is exploring whether these facial gestures – which babies see constantly – might actually help them learn language.

First, we videotaped moms speaking phrases to their babies in either English or Japanese and then we analyzed their facial movements. We found that both the English and Japanese moms used facial gestures in a meaningful way: they raised and lowered their eyebrows to mark the beginnings and ends of the important parts of the phrases they were saying. Also, our group of English moms signaled the most important word within these phrases by nodding their heads.

We are now investigating whether babies can actually learn from these facial gestures – specifically, whether they can learn the word order of the language(s) they’re hearing. The word order of verbs and objects can differ between different languages. For example, in English we say “I eat chocolate”, but in Japanese we say “I chocolate eat”. Previous research has shown that babies learn word order very early on – long before they say their first words – and that when they begin to combine words, they already arrange them in the correct order! In our current study, we created a made-up (artificial) language that follows some simple rules including word order. Babies watch a brief video of a cartoon girl talking in the artificial language; she nods her head at certain points to signal the rules. We want to know whether seeing the head nods might help babies between 4 and 8 months of age learn the rules of the artificial language. We are studying both monolingual and bilingual babies, because the results of a similar ongoing study with adults suggest that bilinguals pay more attention to facial gestures than monolinguals. It is therefore possible that babies being raised in a bilingual environment use visual information like facial gestures to help them distinguish between their two languages!

We are proud to be part of UBC’s Early Development Research Group! Learn more at edrg.psych.ubc.ca