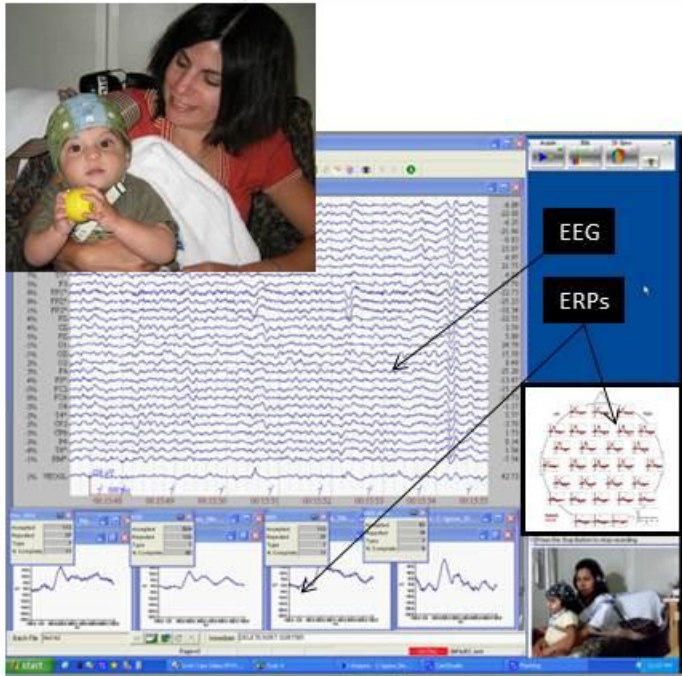


Box 1. Understanding the Bilingual Brain: Assessing Infants' Language Development using Multiple Techniques

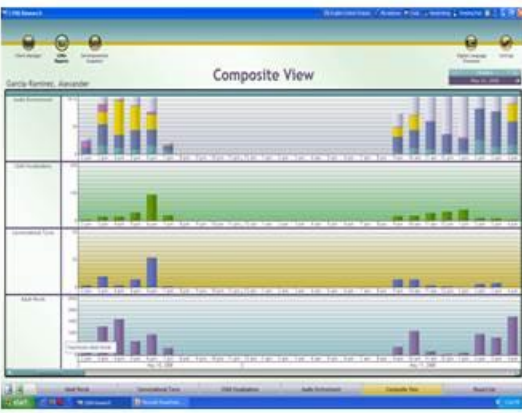

Brain Measurements of Bilingual Infants



ERPs are recorded while infants listen passively to stimuli presented by loudspeakers placed at 45° angles approximately 1 m in front of them. Infants sit on their parents' lap while an experimenter entertains them with silent toys. Electroencephalogram or EEG is recorded continuously while the speech sounds are presented (top). Real time Event Related Potentials (ERPs) are created by averaging the brain activity associated with the stimuli presentation (bottom).

Social Context Assessment in Bilingual Infants

The digital recorder records continuously for 16 hours. The recorder is light, easy to use, unobtrusive and highly reliable. Infants go on with their daily lives and the recorder captures social environments and language input from the infants' perspective.



An example of a composite view of an infant's language and audio environment using LENA software. At 4:00 pm the infant listened to a greater number of adult words (purple bars). At 6:00 pm the infant made a greater number of vocalizations (green bars) and had more conversational turns with an adult (blue bars).