Preparing Scholars of Tomorrow to Effectively Analyze Language Sample Data for Parent-Child Turn Taking

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Department: Communication Sciences and Disorders
Number of Undergraduate Student Participants: 68

Undergraduate students enrolled in *CSD 3070, Normal Language Acquisition* gained broad and discipline-specific inquiry skills related to the ethical conduct of research, literature review process, data collection using language assessment techniques, language sample analysis, hypothesis testing, and research dissemination. Specifically, students were asked to work in pairs to 1) identify a child and family and attain consent for research, 2) collect a language sample of parent-child interaction during daily routines, 3) analyze the data by applying traditional language sampling techniques, and 4) compare part of their analysis to a computer-generated analysis of the same language sample. The project director and supporting CSD faculty provided high quality instruction and coaching to the students to prepare them for the data collection experience and to facilitate a data analysis process that was accurate, effective, and efficient.

As it is widely accepted that the most critical socio-communicative experiences for young children occur during interactions with their caregivers and family members, language sample recordings occurred as child-parent dyads engaged in their typical daily routines within their homes or natural settings for at least five hours. Student researchers utilized innovative recording technology known as LENA to collect and analyze data.

The Language Environment Analysis System (LENA) Pro and Research Version is a language monitoring and feedback system designed to provide information about the language environment of young children and consists of three main components: 1) a Digital Language Processor (DLP) that records the language use of the child and communication partners, 2) specially designed children's clothing with a pocket to hold the processor in place, and 3) software that processes the recording from the DLP and provides computer-generated reports and graphs for data analysis.

Audio data collected using the DLP were transferred to a computer and analyzed using LENA software. Measures obtained from the analysis were as follows: 1) AWC: Adult Word Count, which reports the total number of adult words the child hears, 2) CT: Conversational Turns, which provides estimates of the total number of conversational interactions the child engages in with an adult, and 3) CV: Child Vocalizations, which reports continuous speech spoken by the child wearing the processor. Traditional language sample analysis measures based on student transcription and coding were compared to the computer-generated measures.

The students gained invaluable experiences by applying qualitative and quantitative data analysis techniques, while contributing to the scientific evidence base across multiple fields, including speech-language pathology, child development and education, psychology, early intervention, and family and child sciences.

<u>Presentations:</u>

Coston, J., Jackson, C.W., Kashinath, S., and Callendar, M. CSD students use LENA to analyze language sample data across diverse populations. Poster accepted for the LENA International Conference, Denver, CO, April 28-30, 2013.

Coston, J., Stonestreet, R., Myers-Jennings, C., Cox, J., and Lively, S. Preparing CSD Students to Analyze Language Sample Data Using LENA. Presentation proposed for the American Speech-Language-Hearing Association Convention, Atlanta, GA, November 15-17, 2012.

Coston, J., Whitfield, J., and Lively, S. Using LENA with a Child with Cochlear Implants: Case Study. Poster session presented at the American Speech-Language-Hearing Association Convention, San Diego, CA, November 17-19, 2012.

Cox., J.R., and Coston, J.H. (2012, April). Using LENA to Analyze Parent Speech Acts in Conversations with Young Children. Poster session presented at the Valdosta State University Graduate Research Symposium, Valdosta, GA, April 20, 2012.

Cox, J., Lively, S., and Coston, J. (2012, November). Using LENA to analyze lexical diversity in parent-child dyads. Poster session proposed for the American Speech-Language-Hearing Association Convention, Atlanta, GA, November 15-17, 2012.

Goldstein, H., Scherer, N., VanDam, M., Coston, J., Kastler-Davis, S., and Peercy, M. Consumers Guide to LENA: Comments and Recommendations from Expert Users. Presented at the American Speech-Language-Hearing Association Convention, San Diego, CA, November 17-19, 2011.

Jackson, C.W., Coston, J., Kashinath, S., and Callender, M. The Utility of LENAs for Authentic Assessment of CLD Children. Presented at the American Speech-Language-Hearing Association Convention, Atlanta, GA, November 15-17, 2012.

Lively, S. (2012, April). Using LENA with a Child with Cochlear Implants: A Case Study. Presented at the Valdosta State University Undergraduate Research Symposium, Valdosta, GA, April 5-6, 2012.