**THE EFFECT OF INPUT VARIABILITY ON PHONETIC VOWEL TRAINING FOR CHILDREN**

*Gwen Brekelmans[1], Bronwen G. Evans[2], Elizabeth Wonnacott[1]*
*Department of Language and Cognition[1] & Department of Speech and Hearing Sciences[2]*
*University College London*
*gwen.brekelmans.15@ucl.ac.uk bronwen.evans@ucl.ac.uk e.wonnacott@ucl.ac.uk*

High variability phonetic training is a well-established method in second language speech research following seminal studies in the field (Logan, Lively, & Pisoni, 1991)**.** Their method of training learners on specific non-native phoneme contrasts critically used high variability (HV) input using multiple talkers and phonetic contexts (while earlier attempts which had used low variability (LV) input had proved unsuccessful). Since then, HV phonetic training has been successfully applied in many adult studies (e.g. Nishi & Kewley-Port, 2007), and has more recently gained ground in similar studies with children (Giannakopoulou, Uther, & Ylinen, 2013)**.** However, only one study to date (Giannakopoulou, Brown, Clayards, & Wonnacott, 2017) has directly investigated the effect of variability in the input for training children, and this found an unexpected LV benefit in training. One difficulty in interpreting this result is that rather than using a blocked design as has been common in adult studies, this study varied talkers on a trial-by-trial basis, something which has been shown to be detrimental in speech recognition tasks (e.g. Mullennix, Pisoni, & Martin, 1989)**.** The current study aims to further investigate the effect of variability on phonetic training for children.

On the basis of initial one-day phonetic training experiments where we found no evidence for an HV benefit, we developed a two-week training study in which two groups of Dutch learners of English, 7-8 year-olds and 11-12 year-olds, were trained on four Standard Southern British English (SSBE) phoneme contrasts: /uː/-/ʊ/, /e/-/æ/, /ʌ/-/ɒ/, and /iː/-/ɔː/. These contrasts were chosen because the first three are notoriously difficult for Dutch learners, while the latter served as a baseline measure of learning. The main manipulation was whether the children received HV or LV input in training. Potential effects of variability input in training were investigated using a pre/post-test design in which children completed a battery of pre- and post-tests examining their phoneme identification and discrimination abilities. For each of the contrasts they also completed a task in which they recorded keywords for each of the vowels. Results will be presented in light of whether or not HV or LV training better promotes phonetic learning and whether or not this affects learning in different ways, e.g., whether or not HV but not LV training leads to changes in vowel category discrimination, or vice versa.

**References**

Giannakopoulou, A., Brown, H., Clayards, M., & Wonnacott, E. (2017). High or low? Comparing high and low-variability phonetic training in adult and child second language learners. *PeerJ*, *5*, e3209.

Giannakopoulou, A., Uther, M., & Ylinen, S. (2013). Enhanced plasticity in spoken language acquisition for child learners: Evidence from phonetic training studies in child and adult learners of English. *Child Language Teaching and Therapy*, *29*(2), 201–218.

Logan, J. S., Lively, S. E., & Pisoni, D. B. (1991). Training Japanese listeners to identify English /r/ and /l/: a first report. *The Journal of the Acoustical Society of America*, *89*(2), 874–886.

Mullennix, J. W., Pisoni, D. B., & Martin, C. (1989). Some effects of talker variability on spoken word recognition. *The Journal of the Acoustical Society of America*, *85*(1), 365.

Nishi, K., & Kewley-Port, D. (2007). Training Japanese Listeners to Perceive American English Vowels: Influence of Training Sets. *Journal of Speech Language and Hearing Research*, *50*(6), 1496.