An interactive English pronunciation dictionary for Korean EFL learners. Jong-mi Kim¹, Mitchell Peabody², Chao Wang², & Stephanie Seneff², ¹Dept. of English Language and Literature, Kangwon National Univ., S. Korea, ²Spoken Language Systems, CSAIL, MIT, Cambridge, MA, USA.

Much progress has been made in the phonetic lexicographic techniques that underlie current prevailing audible learners' dictionaries, such as those of Cambridge, Cobuild, Longman, MacMilan, Oxford, and Webster. However, one major limitation of these dictionaries is their insensitivity to learners' native language. Previous research has shown that learners can benefit from using audible dictionaries to enhance pronunciation clarity and that native phonology structure plays a role in second language acquisition. We present a prototype of a pronunciation dictionary that features sensitivity to learners' native phonology, specifically designed for Korean learners of English-as-a-Foreign-Language (EFL). The dictionary is also interactive in that it can record and process learners' imitation of the dictionary pronunciation and instantly provide phonetic feedback on accent. This feedback may include assessments of segmental quality, segment insertion/deletion, stress, rhythm, intonation, etc. We have designed and collected a speech corpus addressing the phonological and prosodic issues of Korean EFL learners. The database contains 13076 waveforms, 5015 of which are for prosodic research. We have built a speech recognition system specifically for recognizing non-native English speech spoken by Korean learners. The recognizer is configured from the MIT Summit system with phonological rules expanded to accommodate typical errors expected from Korean speakers. Our initial analysis showed that the recognizer was able to detect subtle inter-lingual phonetic forms with sound quality that is marginal or absent in both languages. The recognizer was also able to locate segment insertions and deletions due to syllabic differences of the two languages.