Golden Speaker Builder, an interactive tool for pronunciation training: User studies

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Computer-assisted Pronunciation Training (CAPT) can provide learning opportunities that a face-to-face class cannot. The opportunities include, but are not limited to, large amounts of input, a comfortable learning environment, and the use of personalized voices (Probst, Ke and Eskenazi, 2002). Probst et al. (2002) suggest that second language learners imitating a model voice which shares features with their own voice would make pronunciation learning easier. Therefore, it seems that the type of model used in CAPT is a crucial factor in the quality of practice and the amount of uptake by language learners. This study examines the use of Golden Speaker Builder (GSB), a synthesized voice for pronunciation training that mirrors the learner's own voice, a so-called golden speaker.

We studied the progress of 15 advanced Korean learners of English who took part in three weeks of CAPT training using 24 English sentences that were synthesized for the training. Learners took part in a pretest, training, posttest and delayed posttest. Their productions of the trained sentences were rated by naïve English-speaking undergraduate students for accentedness, comprehensibility, and fluency. In addition, learners were interviewed about their experience using the training interface. Statistical analyses were based on fitting linear mixed-effects regression models to predict dependent variables (i.e. ratings of comprehensibility, fluency, and accentedness) based on their performance on the pre-test, immediate post-test, and delayed post-test. For qualitative research, learners' interviews were transcribed and coded, and these qualitative results were used to enhance the quantitative findings.

The results of the study showed a significant improvement in learners' fluency and comprehensibility at the posttest. Improvement was sustained at the delayed posttest for fluency but not for comprehensibility. Our qualitative findings supported the quantitative findings on fluency improvement because learners thought the GSB training was most helpful for their fluency.

Learners' suggestions about the GSB and our quantitative results suggest considerations for future iterations and for design features that should be improved for the GSB. Such changes include both the acoustic quality of the golden speakers and the design of the learning interface.

References

Probst, K., Ke, Y. and Eskenazi, M. (2002). Enhancing foreign language tutors – In search of the golden speaker. *Speech Communication,* 37(3-4): 161–173.