Authors: Danielle Daidone
University of North Carolina-Wilmington
daidoned@uncw.edu

Silvina Bongiovanni
Michigan State University
bongiov8@msu.edu

Ryan Lidster
Marshall University
lidster@marshall.edu

Alisha Reaves
Towson University
areaves@towson.edu

Jamie Root
New York University
jr4913@nyu.edu

Chisato Kojima
Illinois-Wesleyan University
ckojima@iwu.edu

Title: High variability phonetic training in two Spanish pronunciation courses: data and lessons learned

High variability phonetic training in two Spanish pronunciation courses: data and lessons learned

While research has demonstrated that high variability phonetic training (HVPT) is an effective learning tool for non-native contrasts when conducted in a laboratory setting (Thomson, 2018), few studies have examined its efficacy in the L2 classroom (Barriuso & Hayes-Harb, 2018). Additionally, HVPT has mainly been limited to assisting with the acquisition of English phonology, with only one study examining its usefulness for L2 Spanish learners (Uchihara, Karas, & Thomson, 2021). To explore the feasibility and usefulness of HVPT for students in Spanish courses, we implemented HVPT in two Spanish pronunciation classrooms. Over the course of the semester, and as a required component of coursework, each student completed a pre-test and short HVPT sessions on stress, /ɾ/-/r/, /d/-/ɾ/, /e/-/ei/, and sound correspondences to <g-> and <gu-> grapheme sequences. All HVPT tests and training were done as online homework through websites implemented with jsPsych. During the trainings, learners received feedback (correct vs. incorrect) on each trial. They could take these trainings unlimited times until reaching a 90% accuracy benchmark (and count as completed for the purpose of their coursework). Learners also completed a two-part post-test, the first part with known words and the voices from the training (post-test, henceforth) and the second part testing generalization to new words and to new voices (generalization test, henceforth). Pre- and post- course questionnaires on their attitudes towards L2 pronunciation and the usefulness of the training (post-test only) were also included. In total, 23 participants' data was analyzed.

Overall, results showed significant gains. With /ɾ/-/r/, learners improved from pre-test to post-test, but while their scores in the generalization test were higher than the pre-test, they were lower than the post-test with known words and voices. With /d/-/ɾ/, on the other hand, the post-test showed higher accuracy than the pre-test, but generalization scores were the same as the pre-test, suggesting that generalizing to unknown words and speakers is particularly difficult for this contrast. For stress, /e/-/ei/, and sound correspondences to <g-> and <gu->, the results showed improvement from pre-test to post-test, and there was no significant difference between the post-test and generalization test, revealing that they successfully transferred their learning to new words and voices. While learners typically achieved the 90% landmark in only a few tries on most contrasts, the stress and /d/-/ɾ/ contrasts were considerably more difficult for some learners. For example, with stress, some learners were never able to reach the 90% benchmark, despite receiving feedback after each trial. These findings show that some contrasts require more training sessions than others, and suggest that students should be provided with even more scaffolding prior to attempting the training on these contrasts.

Regarding students' qualitative reactions to the training sessions, in general learners found HVPT to be a useful, although at times difficult, tool for improving their learning of L2 contrasts. We are currently collecting data from a non-pronunciation course to examine the contribution of training alone versus pronunciation instruction plus training. We are also developing an open educational resource website that will allow any Spanish instructor to incorporate HVPT into their own courses. These new data and pedagogical plans will be discussed in the presentation. Overall, the results in this pilot study show that HVPT is a promising pedagogical tool that can be successfully implemented in the Spanish classroom.

References

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