

EFFECTS OF LINGUISTIC EXPERIENCE AND TONE TRAINING ON CANTONESE TONE WORD LEARNING

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ABSTRACT

The current study investigated the influence of phonemic tone training on Cantonese tone word learning. Native English listeners completed a brief Cantonese tone training program before learning the meanings of 15 vocabulary items distinguished by Cantonese tones. Their performance in tone word learning was compared against groups of native Thai and English listeners who received no tone training

group) before their embarking on a Cantonese word learning program and comparing their results to groups of Thai and English listeners who received only word training (Word-Only groups).

2. METHODS

2.1. Participants

Fifty adults with no knowledge of Cantonese or any other lexical tone language, other than their native language, were included in this study. All participants had less than 5 years of musical experience, and no experience within the last 5 years. Thirty-two were native Canadian English speakers, sub-divided into a Tone Training group (TT; 12 females, 4 males; *mean*=22 years) and a Word-Only group (WO-E; 10 females, 6 males; *mean*=24 years). Eighteen listeners were native speakers of Standard Thai (i.e., Thai Word-Only group, WO-T; 10 male, 8 female; *mean*=22 years).

2.2. Stimuli

2.2.1. Tone training

Five CV monosyllables (*se, jau, tso, seui, ju*)

repetitions of 3 words while viewing pictures of their meanings (2 speakers x 3 words x 2 repetitions). Each block concluded with a quiz, matching each stimulus with their picture (4 speakers x 3 words), with feedback provided. Both review blocks were comprised of all 15 words and provided feedback after each response. Each session concluded with a test

($p < 0.0001$). Post-hoc analyses (Bonferroni-adjusted) indicated that high-level tone words were significantly better than all other tone words for both TT (94%, $p < .013$) and WO-E (83%, $p < .001$). For TT, low-falling tone words (75%) were also significantly better than low-rising words (59%, $p = .041$). No other significant differences by tone were found for WO-E (47%). For WO-T, high-level (83%), high-rising (72%) and low-falling (76%) tone words were significantly better than low-rising ones (53%, $p < .004$).

4. DISCUSSION

Tone training successfully enhanced TT's ability to identify non-native tones, resulting in their significantly outperforming both WO-E and WO-T at tone ID prior to word learning. After word training, TT and WO-T were both achieving higher levels of word ID accuracy than WO-E. Given that TT obtained greater success in word ID than WO-E, this suggests that higher tone ID scores aided TT in word learning. As in [5], it appears that attunement to pitch information can facilitate tone word acquisition, such that they may establish more stable tone representations allowing them to develop their pitch-to-semantic mapping mechanisms more easily. Results from this study indicate that for non-tone language listeners, even short-term tone training can have a substantive impact on tone word learning, allowing for the attainment of comparable levels of success as tone language listeners at an initial stage of learning.

That WO-T achieved similar levels of word ID success is interesting, as they were significantly worse than TT at identifying tones. This may suggest that their L1 experience with using pitch lexically provided aid during non