Tonal Contrast and Pitch Range in L2 Taiwan Min Produced by Native Si-Xien Hakka Speakers

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Abstract

This research is intended to understand how native Si-Xien Hakka speakers, whose tone system in part maintains a high-level 55 vs. mid-falling 31 tonal contrast, make a three-way distinction between the high-level 55 vs. mid-level 33 vs. mid-falling 31 tones in their L2 Taiwan Min, and to examine whether their L2 pitch range is more expansive than that in L1 due to the addition of the mid-level 33 tone. The L2 tone data at disyllabic-word level produced by two male Si-Xien Hakka speakers (HK-M1 and HK-M2), both married to native speakers of Taiwan Min for more than 40 years, were investigated and compared to the control data produced by one male native speaker of Taiwan Min (TM-M1), and to their L1 Si-Xien tone data. For each tone used in analysis mean duration and fundamental frequencies at three measuring points with equal intervals were calculated. Results of comparative analysis of the target tones between TM-M1 and HK-M1/-M2 indicated an effect of prosodic positions on the L2 Taiwan Min tone production. It is at the word-final position that the distribution of the L2 high-level 55, mid-level 33, and mid-falling 31 tones presented a similar contrastive pattern to that of TM-M1. However, at the word-initial position these target tones exhibited three parallel falling tones in the case of HK-M2, and HK-M1 merged the mid-level 33 and the mid-falling 31 tones into the mid-falling 31 tone, resulting in a two-way tonal contrast at this prosodic position. HK-M1's/-M2's L2 tone performance discrepancy between the word-initial and -final positions might be accounted for by the prevailing phonetic phenomenon that syllables tend to be produced in a more complete form at the word- or sentence-final position as compared to the non-final ones; therefore, they are perceptually more salient and facilitate nonnative speakers' L2 tone mastery. Results of intra-subject

comparative analysis between the L1 and L2 tone production data revealed that with respect to pitch range little variation was found in the case of HK-M2, yet a significant pitch range expansion occurred in HK-M1’s L2, implying that Hk-M1 recognized a more expansive pitch range in Taiwan Min tones, as compared to Si-Xien Hakka. Our findings suggest that the acquisition of L2 tonal contrast can benefit from the tone being at the word-final position, and, on the other hand, that HK-M1’s L2 pitch range expansion might imply that Taiwan Min might have a more expansive pitch range than Si-Xien Hakka due to the addition of the mid-level tone.

Keyword：Taiwan Min, Si-Xien Hakka, L2 tonal contrast and pitch range