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**Production of American English [eɪ] and [ɛ] by Mandarin speakers:
mono- vs. disyllabic words**

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Mandarin productions of English tense vs. lax vowels are difficult for English speakers to differentiate (Chen et al. 2006). In this study the production of American English [eɪ] and [ɛ] by Mandarin and American participants was investigated. The target vowels were embedded in monosyllabic and disyllabic words with a stop-V-voiceless stop context in carrier sentences of variable length. There were two formant measurements for each vowel (20% after the onset and before the end of the vowel). In the monosyllabic condition, Mandarin speakers' performance was similar to American speakers in duration and formant values except that [eɪ] started too low. However, in the disyllabic condition, Mandarin speakers' formants for [eɪ] and [ɛ] were overlapped and there was no significant durational distinction between [eɪ] and [ɛ]. One possible account for this difference is that when producing a disyllabic word, Mandarin speakers tend to shorten the vowel duration of the first syllable to compensate for the production of the following syllable. The difference in syllable conditions may reflect a tendency that Chinese regularizes word durations regardless of the number of syllables.

Reference: Chen, Y. et al. (2006). Vowel production by Mandarin speakers of English. *Clinical linguistics and phonetics*, 15, 427-440