Utilization of suprasegmental information in English spoken word recognition among Chinese EFL learners: pitch drives the prosodic transfer

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Abstract

Spoken word recognition is the foundation of successful communication and involves the processing of information from low-level acoustic cues to high-level cognitive representations. A wide variety of previous studies have explored the underlying mechanism of how lexical stress is utilized during spoken word recognition in stress languages and found that the utilization of lexical stress is influenced by the interdependency of segmental and suprasegmental cues. More specifically, when segmental variation is involved in lexical stress shift, people tend to utilize segmental cues rather than suprasegmental ones to recognize the spoken word. Additionally, the utilization of suprasegmental information in native spoken word recognition (L1) was found to influence how such information was utilized in non-native spoken word recognition (L2) across stress languages, and such influence could be attributed to prosodic transfer from L1 lexical stress to L2 lexical stress.

However, for speakers of Chinese (i.e., a tone language) who learn English (i.e., a stress language) as a foreign language (EFL), it remains unclear whether they could utilize lexical stress in English spoken word recognition through prosodic transfer from L1 lexical tone to L2 lexical stress. Moreover, if Chinese EFL learners could utilize lexical stress through prosodic transfer, the factors that might influence the utilization of lexical stress also remain unclear. Therefore, the current study was conducted to answer two research questions. First, can Chinese EFL learners utilize lexical stress in English spoken word recognition? Second, what factor might influence the utilization of lexical stress in English spoken word recognition among Chinese EFL learners.

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To answer these two research questions, six experiments were conducted by adopting Event-Related Potential (ERP) measurements. The first three were conducted to answer the first research question among Mandarin EFL learners (adults). The last three experiments were conducted to answer the second research question by comparing Mandarin and Cantonese EFL learners (adults). The results of the current study demonstrate that Chinese EFL learners utilize lexical stress in English spoken word recognition through prosodic transfer from L1 lexical tone to L2 lexical stress at the phonetic level rather than at the suprasegmental level. Specifically, pitch plays an important role in the prosodic transfer.

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