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Effects of Global Validity of Predictive Cues upon L2 Discourse Comprehension: Evidence from Self-paced Reading

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Abstract : It remains unclear whether second language (L2) speakers could use discourse context cues to predict upcoming information as native speakers do during online comprehension. Some researchers propose that L2 learners may have a reduced ability to generate predictions during discourse processing. At the same time, there is evidence that discourse-level cues are weighed more heavily in L2 processing than in L1. Previous studies showed that L1 prediction is sensitive to the global validity of predictive cues. The current study aims to explore whether and to what extent L2 learners can dynamically and strategically adjust their prediction in accord with the global validity of predictive cues in L2 discourse comprehension as native speakers do. In a self-paced reading experiment, Chinese native speakers (N=128), C-E bilinguals (N=128), and English native speakers (N=128) read high-predictable (e.g., Jimmy felt thirsty after running. He wanted to get some water from the refrigerator.) and low-predictable (e.g., Jimmy felt sick this morning. He wanted to get some water from the refrigerator.) discourses in two-sentence frames. The global validity of predictive cues was manipulated by varying the ratio of predictable (e.g., Bill stood at the door. He opened it with the key.) and unpredictable fillers (e.g., Bill stood at the door. He opened it with the card.), such that across conditions, the predictability of the final word of the fillers ranged from 100% to 0%. The dependent variable was reading time on the critical region (the target word and the following word), analyzed with linear mixed-effects models in R. C-E bilinguals showed reliable prediction across all validity conditions (β = -35.6 ms, SE = 7.74, t = -4.601, p< .001), and Chinese native speakers showed significant effect (β = -93.5 ms, SE = 7.82, t = -11.956, p< .001) in two of the four validity conditions (namely, the High-validity and MedLow conditions, where fillers ended with predictable words in 100% and 25% cases respectively), whereas English native speakers didn't predict at all (β = -2.78 ms, SE = 7.60, t = -.365, p = .715). There was neither main effect ($\chi^2(3) = .256$, p = .968) nor interaction (Predictability: Background: Validity, $\chi^2(3) = 1.229$, p = .746; Predictability: Validity, $\chi^2(3) = 2.520$, p = .472; Background: Validity, $\chi^2(3) = 1.281$, p = .734) of Validity with speaker groups. The results suggest that prediction occurs in L2 discourse processing but to a much less extent in L1, witha significant effect in some conditions of L1 Chinese and anull effect in L1 English processing, consistent with the view that L2 speakers are more sensitive to discourse cues compared with L1 speakers. Additionally, the pattern of L1 and L2 predictive processing was not affected by the global validity of predictive cues. C-E bilinguals' predictive processing could be partly transferred from their L1, as prior research showed that discourse information played a more significant role in L1 Chinese processing.

Keywords : bilingualism, discourse processing, global validity, prediction, self-paced reading
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