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Collocation and predicative inferencing in reading: Evidence from eye-movement studies

Probabilistic constraints in language are not uncommon (Bod, Hay, & Jannedy, 2003) and would seem to play an important role in the way language is learnt, processed and used (Seidenberg & MacDonald, 1999). Collocation, the probabilistic tendency of certain words to co-occur, is pervasive, both as a phenomenon observed in natural language use and as the object of study in corpus linguistics. Studies of collocation in corpora (and its extensions – colligation, semantic preference and semantic prosody) have formed the basis for several claims relating to the nature of language in the mind and/or how it is processed (e.g. Hoey 2005, Sinclair 1991, Louw 1993). Although these claims are essentially psychological in nature, few researchers have sought to investigate how corpus derived collocations are actually processed in real-time. The present paper reports two experiments which used the eye-movement paradigm to investigate how native speakers of English process lexical collocation errors and morphological colligation errors extracted from a corpus of learner English.

In experiment 1, a word-by-word self-paced reading procedure was used to compare reading times for sentences containing either a learner collocation error (e.g. heavy crime) or colligation error (e.g. responsibility person) to sentences containing a formulaic native speaker equivalent (e.g. serious crime/responsible person). Using eye-tracking methodology, experiment 2 explored native speaker processing of comparable stimuli under more naturalistic reading conditions. Results show that, in comparison to the native speaker equivalent, (1) learner collocation errors are associated with an increased and sustained processing burden, (2) that the size and duration of the burden is substantially greater for morphological errors (colligation errors) than for lexical errors (collocation errors), and (3) that morphological errors are detected earlier.

The results indicate that colligational 'primings' are stronger than collocational 'primings' – a finding which, it is argued, provides support for Hoey's (2005) theory of Lexical Priming and usage-based models of language. Drawing on recent theories from cognitive science (in particular, Pickering & Garrod 2007), some explanatory hypotheses are put forward. It is proposed that differences in the size and time-course of participants' response to collocation and colligation errors are indicative of the use of probabilistic knowledge to predict upcoming input. It is suggested that the phenomenon of collocation can support predictive inferences of upcoming input in language comprehension, and, thus, aids fluent language processing. Theoretical and methodological implications for collocation research are discussed.

References

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