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Bilingual word recognition has focused on the interaction between L1 and L2 representations during lexical access. It has been reported that words can be co-activated during the initial steps of lexical access whatever the language they belong to and that lexical access is therefore language nonselective. One aspect of lexical access in a second language (L2) that has not yet been studied is the precision of lexical orthographic representations, which can be conceived as a high quality of the representations of letters in the word, their identity and order associated with a fine-tuned orthographic coding mechanism.

This issue of the existence of L2 orthographic representations and their precision is of particular interest when investigating low-proficient bilinguals or young L2 learners who do not yet master the L2 and have a few exposure to the language. The masked priming paradigm has been shown to be a good tool for investigating orthographic representations and coding. Our goal was to use this paradigm to examine orthographic representations in L2 learners of varying language exposure. Particularly, we compared L2 target processing in three priming conditions: identity, form and unrelated priming. Identical priming (boat-BOAT) and form priming (doat-BOAT) effects have been shown to be facilitatory, respectively due to pre-activation of the lexical target representation and share of letters between the prime and the target (Pratarelli, Perry & Galloway, 1994). We suggest that precision of L2 orthographic representations can also be investigated by comparing identical and form facilitation priming effects. The rationale is that any priming difference that emerges between the two priming conditions should reflect good precision of L2 orthographic representations, that is sensitivity to the exact letter identity in the word. Oppositely, equal facilitation priming effects may reflect poorly specific lexical representations.

Two groups of French native speakers learning English as a L2 were examined: adult low proficient bilinguals and Grade 8 Secondary school children who have respectively been exposed to the English language for 7 and 2 years. This exposure condition enabled to test for developmental differences in the priming patterns. Seventy-two English (L2) target words were used in a lexical decision task. These target words were preceded by either an identical prime word (boat – BOAT), a form prime pseudoword (doat – BOAT) or an unrelated prime word or pseudoword (mice- BOAT). Written frequency, position of the letter change between the prime and the target and cross-language neighborhood were controlled. A lexical decision task associated with the masked priming procedure was used using a 57 ms SOA.

Results revealed no interaction between priming effects and level of L2 exposure, which led to combined analyses of the two groups of participants. Priming effects revealed a significant difference between orthographically related conditions (identical and form priming conditions) as compared to the unrelated priming condition, that reflected orthographic facilitation. Importantly, facilitation priming effects were stronger in the identical priming condition as compared to the form priming condition, which reflected sensitivity to one-letter difference between the prime and the target.

These results offer the first tentative support for the existence of identity and form priming facilitation effects in these populations of low-proficient L2 learners. They also evidence high precision of L2 orthographic representations in both groups of L2 learners and
so as early as after 2 years of L2 exposure. These results are discussed within the bilingual interactive activation framework (Dijkstra & van Heuven, 2002).

References:
