

Individual differences in second language learning via syntactic priming:
examining proficiency, attention and motivation
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Recent psycholinguistic models identify syntactic priming as a possible mechanism underlying sentence processing and implicit error-based acquisition of syntax in first¹ and second (L2) language learners². They predict that priming effects will lead to long-lasting changes in speakers' knowledge and use of syntactic structures. Such learning is hypothesized to depend on learners' learning rate¹ which may vary with individual differences in proficiency, attention and motivation, factors that are particularly relevant to second language acquisition^{3,4}. Additionally, they predict stronger priming effects in learners whose linguistic representations are still developing and thus more prone to errors than in native speakers.

To test these predictions, we used a picture description task with a confederate⁵ to compare English L2 French learners' and French native speakers' primed production of two alternations: Study 1 tested a typical syntactic alternation - active/passive sentences⁶ (Fig.1) and Study 2 tested priming of word order- fronted/non-fronted adverbial phrases⁷ (Fig.2). We measured the likelihood of participants repeating a syntactic structure immediately after a prime (immediate priming), the likelihood of participants continuing to use target structures in post-priming tests without primes relative to pre-priming tests (long-term priming) and the increase in target structure production as a function of previously experienced target structures (cumulative priming). We examined the relationship between priming effects and learners' individual differences in proficiency, attention and motivation as assessed through questionnaires commonly used in the L2 literature^{8, 9, 10}.

The pre-test data suggest that speakers dispreferred passive (Fig.3) and fronted sentences (Fig.4) therefore we analyse the effects of priming on these forms. Learners and native speakers showed long-term and cumulative priming for both passive and fronted sentences whereas immediate priming was only observed for the latter. There was no interaction between group and priming in any of the two studies although in overall, learners produced more passives than native speakers in Study 1. Learners with higher proficiency were more likely to show priming for both structures. Attention, defined as participants' noticing of the syntactic forms used in the stimuli⁹, increased learners' likelihood of being primed on fronted sentences only. For native speakers, attention increased their likelihood of being primed on passives only. Learners' motivation did not affect syntactic priming for either structure.

In line with implicit learning accounts of syntactic priming¹, L2 French learners, like native speakers, showed long-term effects of syntactic priming on their production of passive and fronted sentences. However, in contrast to the predictions of these accounts, we did not observe stronger priming in learners than in native speakers; such interactions may only arise when native speakers' priming is weak¹¹. Furthermore, within the learners' group, those with greater proficiency were in fact more likely to show priming. These findings are in line with another model of priming for language learners¹² whereby participants start with lexically-specific syntactic representations and only develop abstract, primeable representations as proficiency increases. For attention, our results suggest that syntactic complexity may modulate its effect on syntactic priming: in learners, noticing affected priming of easy structures (fronted sentences) whereas in native speakers, noticing affected priming of difficult structures (passive sentences) that they did not spontaneously produce. We attribute the absence of a motivation effect to a possible recruitment bias since all participants had high motivation scores.

A follow-on study will explore whether lexical repetition modulates the effect of proficiency, attention and motivation on syntactic priming. We predict that lexical overlap will attenuate the effect of proficiency¹² but increase the effect of attention on syntactic priming. We expect lexical overlap not to affect the relationship between motivation and syntactic priming.

References:

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Study 1

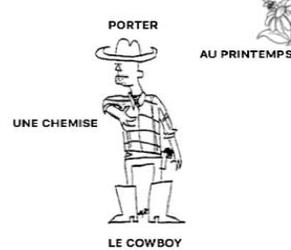
Figure 1. Example active/passive item.



- A: La serveuse frappe le clown
The waitress is kicking the clown
- P: Le clown est frappé par la serveuse
The clown is being kicked by the waitress

Study 2

Figure 2. Example fronted/non-fronted item.



- F: Au printemps, le cowboy porte une chemise
In spring, the cowboy wears a shirt
- NF: Le cowboy porte une chemise au printemps
The cowboy wears a shirt in spring

Figure 3. Passive responses across phases

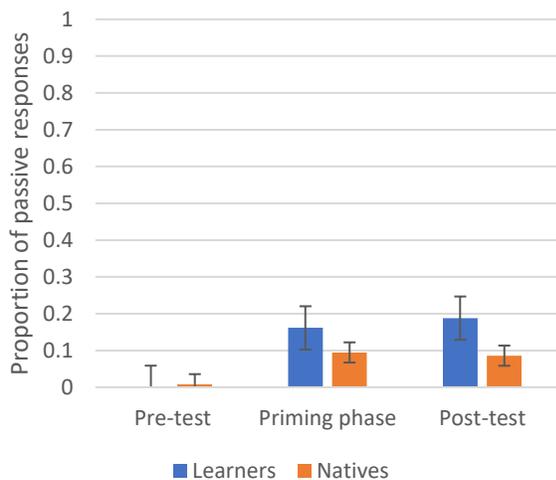


Figure 4. Fronted responses across phases

