Learning from Examples: Testing the Benefits of Retrieval Practice for L2 Grammar Acquisition

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Learning from examples is a common premise in language apps for adult learners. Multiword sequences, or chunks, are especially important in early stages of language learning. Theoretical models suggest that abstract grammatical constructions can emerge from statistical learning of these chunks (Ellis, 2019). Retrieval practice, or the testing effect, is a learning technique shown to maximize retention by requiring active recall rather than mere rereading (Dunlosky et al., 2013). It can also facilitate generalization to new examples (Kang et al., 2011). However, evidence on its benefits for grammar learning remains limited. Preliminary studies show that retrieval practice improves learning of simple grammatical second language (L2) structures in children and in artificial languages (Opitz & Kubik, 2024; Serfaty & Serrano, 2020). These findings suggest that retrieval may support grammar learning, particularly in beginners, but evidence for generalization to new items is scarce.

The present study investigated whether retrieval practice enhances L2 grammar learning from examples. Two target structures were used: (A) inversion in main versus embedded sentences (e.g., **How ~~had~~ the athlete had trained for the triathlon*?) and (B) the form of the main verb with an auxiliary (e.g., **What did the seer predicted for your future*?). Sixty-two French learners of English studied 24 grammatical sentences illustrating target structures through retrieval practice or restudy. Half learned structure A via retrieval and structure B via restudy; the assignment was reversed for the others. Learning occurred during a half-hour session in the lab followed by two 15-minute online sessions on two consecutive days. Target structure knowledge was measured via an auditory grammaticality judgment task (GJT) during a pre- and post-test spaced by one week. The post-test included a recall test to assess retention.

Results showed a strong benefit of retrieval over restudy for sentence recall (β = 3.08, *SE* = 0.30, *z* = 10.16, $p < .0001$, see Figure 1), as sentences practiced with retrieval were recalled more accurately (33%) than those learned via restudy (11.5%). However, retrieval did not improve generalization to novel items in the GJT (no effect on d', *p*s > .1), although it did enhance response speed on the post-test for the retrieved structure (Retrieval x Target structure interaction on response time difference: β = -0.11, *SE* = 0.06, $t(62) = -2.04$, $p = .045$).

These findings confirm that retrieval practice substantially improves retention, even for complex L2 sentences, but provide limited support for its effect on generalization of grammatical patterns in intermediate to upper-intermediate learners. Factors potentially limiting generalization in this study include participants' prior knowledge, modality mismatch between written learning and auditory testing, sentence length, and subtlety of auxiliary modifications. Ongoing analyses will examine the role of individual differences in working, declarative, and procedural memory.

Implications for teaching are significant: while retrieval-based learning strongly boosts memory for specific examples, its impact on abstraction and transfer of grammatical patterns may be constrained by learner level and task modality. Educators should consider these factors when designing instructional practices aimed at promoting grammar generalization.

References

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Figure 1: Effect of retrieval on sentence recall