

## **A Review of Lexical Retrieval Intervention in Primary Progressive Aphasia and Alzheimer's Disease: Mechanisms of Change, Cognition, and Generalisation**

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**Abstract :** Background: While significant benefits of lexical retrieval intervention are evident within the Primary Progressive Aphasia (PPA) and Alzheimer's disease (AD) literature, an understanding of the mechanisms that underlie change or improvement is limited. Change mechanisms have been explored in the non-progressive post-stroke literature that may offer insight into how interventions affect change with progressive language disorders. The potential influences of cognitive factors may also play a role here, interacting with the aims of intervention. Exploring how such processes have been applied is likely to grow our understanding of how interventions have, or have not, been effective, and how and why generalisation is likely, or not, to occur. Aims: This review of the literature aimed to (1) investigate the proposed mechanisms of change which underpin lexical interventions, mapping the PPA and AD lexical retrieval literature to theoretical accounts of mechanisms that underlie change within the broader intervention literature, (2) identify whether and which nonlinguistic cognitive functions have been engaged in intervention with these populations and any proposed influence, and (3) explore evidence of linguistic generalisation, with particular reference to change mechanisms employed in interventions. Main contribution: A search of Medline, PsycINFO, and CINAHL identified 36 articles that reported data for individuals with PPA or AD following lexical retrieval intervention. A review of the mechanisms of change identified 10 studies that used stimulation, 21 studies utilised relearning, three studies drew on reorganisation, and two studies used cognitive-relay. Significant treatment gains, predominantly based on linguistic performance measures, were reported for all client groups for each of the proposed mechanisms. Reorganisation and cognitive-relay change mechanisms were only targeted in PPA. Eighteen studies incorporated nonlinguistic cognitive functions in intervention; these were limited to autobiographical memory (16 studies), episodic memory (three studies), or both (one study). Linguistic generalisation outcomes were inconsistently reported in PPA and AD studies. Conclusion: This review highlights that individuals with PPA and AD may benefit from lexical retrieval intervention, irrespective of the mechanism of change. Thorough application of a theory of intervention is required to gain a greater understanding of the change mechanisms, as well as the interplay of nonlinguistic cognitive functions.

**Keywords :** Alzheimer's disease, lexical retrieval, mechanisms of change, primary progressive aphasia

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