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Cross-linguistic transfer effects as a by-product of grammatical word class and language proficiency: a case study from bilingual aphasia

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The aim of this study is to report on direct comparisons between verb and noun therapies in bilingual aphasia for potential cross-language treatment generalization.

Method

The participant, AA was a 25 year-old male university student, premorbidly right handed who suffered a left haemorrhagic CVA of the parietal lobe caused by vessel dysplasia two years prior to the study.

AA was a simultaneous trilingual speaker of Greek, English and Arabic. All languages were used on a daily basis however Greek was considered his dominant language. He presented with chronic mild fluent aphasia. Therapy was given to AA in Greek, his most proficient language. Cognates were not included. Treatment was conducted over a two month period in which he received 21 short sessions of 10-15 minutes. The picture-naming intervention consisted of 20 nouns and 23 verbs. A phonologically focused cueing hierarchy technique was used: first he was required to attempt to name the picture; if he was unable to do so the number of syllables was tapped for him; if he was still unable to retrieve the word, the first phoneme was provided, and finally the whole word was auditorily presented for him to repeat. Measures of language performance for nouns and verbs, both treated and untreated was taken at four stages: pre-therapy, during-therapy, immediately-post-therapy and three-months after-therapy in Greek and English.

Results

AA on baseline assessment was able to name correctly 19/42 (45.2%) verbs and 17/42 (40.4%) nouns in Greek, and 16/42 (38.0%) verbs and 12/42 (28.5%) nouns in English. Immediately post-therapy he was able to name 31/42 (73.8%) verbs and 36/42 (85.7%) nouns in Greek, and 18/42 (42.8%) for both verbs and nouns respectively in English. Furthermore at this point, naming was assessed on untrained items. To assess noun retrieval AA was given the Boston Naming Test in Greek (Patricacou et al., 2007) and English (Kaplan et al., 1983). He scored 19/60 (31.6%) for Greek and 12/60 (20%) for English. For verb retrieval, AA had to name pictures of 25 untreated action verbs in Greek and English for which he scored 13/25 (52%) correct for the former and 5/25 (20%) correct for the latter. Three months post treatment AA was able to successfully name of the treated items 40/42 (95.2%) nouns and 35/42 (83.3%) verbs in Greek and 12/42 (28.6%) nouns and 17/42 (40.1%) verbs in English. His performance on untrained items (nouns and verbs) had not changed from the post-therapy phase.

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Discussion

Improvement was significantly greater in Greek, the treated language. Therapy gains made in Greek were evident three months after the treatment was completed. Nouns compared to verbs were significantly the most improved in both languages immediately post-treatment but this carried over only for Greek.

Conclusion

The data from this intervention case study suggests a complex pattern of grammatical class generalization from the treated language to the non-treated language. There is evidence however that intensive therapy in the chronic stage is effective for the treated language only and nouns benefit more than verbs.

References

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