NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

Clinical Question: Is repetition therapy effective in improving lexical access/word finding difficulties?

Citation: Martin N, Fink R, Laine M, and Ayala J. (2004) Immediate and short term effects of contextual priming on word retrieval in aphasia Aphasiology, 18 (10), 867-898.

Design/Method: 11 single case studies with pre and post test data. A set of pictures were collated with 12 categories from 3 different contexts: semantic, phonological and unrelated. Semantic (nouns for food, clothing, animals tools), phonological (nouns in 4 categories beginning with B,D,S and K) and nouns in 4 unrelated (did not share initial phoneme or semantic category).

From the large set of pictures, 60 pictures that the patient couldn’t name in one pre-treatment naming test were tested twice more.

10 pictures that were incorrectly named from each of the 12 categories were selected for contextual priming sessions, 5 items were treated and 5 were control items. The different contexts were treated on different days. Each treatment session started with a pre-test of naming of all 10 items.

Treatment (contextual priming) involved: the 5 treatment items from one context (semantic or phonological) being presented at once, the examiner pointed to and named one picture and the patient repeated it, and then the other 4 items were also given to repeat in turn. This was done 5 times. Then each picture was given to name i.e. the patient was asked to name each item one at a time (these were the ‘immediate test probes’). This whole procedure was repeated 8 times (so each item was repeated 5x8 times and named 8 times during treatment). After a 5 min break the 10 items (5 treated and 5 controls) pre-test were readministered as a post-test.

Participants: N=11 English speaking people with aphasia 5 male and 6 female. Average age 58 yrs, average time post onset 6 yrs. Aphasia quotient 67. 3 with a primary semantic naming impairment, 4 with a primary phonological impairment and 4 with mixed impairment.

Experimental group: See design/method

Control Group: No control participant group required. Within subject control. There were two kinds of controls: 5 control (untreated) items matched to 5 treated items in each condition,(as a control for the effects of spontaneous recovery), and the unrelated context (as a control for the effects of semantic and phonological contexts).

Results: 5 mins after (several cycles of repetition and naming) repetition has a facilitative effect, for 7/11 participants. However, for most of the participants there was no difference between the different contexts. However, the effects of context were often interfering for immediate naming (during the repetition treatment). Semantic contexts lead to more immediate interference than phonological or unrelated contexts. Some support that there is increased interference if the type of prime is the same as the patient’s primary source of deficit. No evidence that interference increases with each trial. Higher rates of contextual errors are associated with poorer semantic abilities. Higher rates of phonological errors were associated with poorer results on naming probes. Non contextual errors reflect the pt’s underlying deficit. No change on control items (ie item specific effects of treatment). Appropriate statistical analysis used (t –tests, chi squares, McNemar and binomial tests).

Comments on Design: Results suggested patterns only, not cause and effect. It was unclear how subjects or picture sets were ‘constructed’ and treatment items ‘selected’. The authors identified that in the future the limits of ‘ Immediate’ and ‘short term’ effects, long term effects of treatment and clearer patterns of the relationship between primary impairment and priming context need to be established.

Level of Evidence (NH&MRC): Level IV

Appraised By: Adult Language EBP Group

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