



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: Specific language therapy targeting auditory, semantic and sentence processing resulted in significant improvements in these areas on specific tests for a client with severely impaired auditory comprehension and jargon aphasia. Specific therapy tasks included spoken word-picture matching, categorising pictures into separate groups, matching written word associates and auditory sentence-picture matching.

Clinical Question: What are the effective therapy techniques currently being used to improve auditory comprehension deficits in people with aphasia?

Citation: Grayson E, Hilton R & Franklin S. (1997). Early intervention in a case of jargon aphasia: efficacy of language comprehension therapy. *European Journal of Disorders of Communication*, vol. 32, pp. 257-276.

Design/Method: A single case study with a cross-over design used to help control for spontaneous recovery. Assessment was conducted pre and post therapy.

Participants: One 50 year-old male client, LR, who had suffered a left infarct in the temporo-parietal region less than 6 months prior to study. He presented with severely impaired auditory comprehension, inability to read aloud or match written words to pictures. His verbal output was characterised by a mixture of English jargon and neologisms rendering him completely unintelligible. Assessment found a profound semantic impairment and additional auditory processing impairments.

Experimental Group: Pre-therapy: The first assessment was 5-6 weeks post stroke and first treatment followed immediately after. The assessment test battery involved 3 tests of auditory processing, 3 tests of semantic processing and both formal and informal testing of sentence processing from the PALPA.

Therapy included 3 therapy blocks:

1. Semantic Therapy: approximately 1 hour, five times a week for 4 weeks

-using a multi-modal approach (auditory word-picture matching, categorising pictures into separate groups, matching written word associates).

- Cues used included: repetition of the sentence, gesture of item, semantic cues, orthographic cues.

REASSESSMENT 1: 4 of the initial tests were then re-administered (minimal pair judgement, spoken and written word-picture matching, TROG). Predicted improvement only in spoken and written word-picture matching.

2. Semantic + Auditory Therapy: 15 min, 3 x per week for 4 weeks

- spoken word-picture matching with rhyming words and each item named 5 x

REASSESSMENT 2: - The battery of tests above was re-administered with improvement predicted in word-picture matching and minimal pairs

3. Sentence processing therapy: Sentence picture matching with verbs using lip-reading and gestural cues

REASSESSMENT 3: This was followed by re-administering the whole test battery.

Control Group: None, control was across tasks within the same single case.

Results: LR's score on the semantic component of the tests (spoken and written word-picture matching) improved significantly post semantic therapy without significant improvement on the other test components. LR's score improved significantly on the auditory processing tests as well as the auditory picture-word matching semantic test post semantic and auditory processing therapy. LR's score on the sentence comprehension test significantly improved post sentence processing therapy; however, there was little further improvement on semantic and auditory processing test components. Results indicate specific therapy tasks improved performance on specific formal language tasks.

Spontaneous speech was also seen to improve during the course of therapy but, as the authors acknowledge, they are unable to unambiguously attribute this to the effects of therapy.

Comments – Strengths/weaknesses of paper:

- Cross over design allows for evaluation of treatment efficacy versus spontaneous recovery despite the individual being very early post onset of aphasia.
- Therapy tasks did not target test items indicating a level of generalisation has occurred.
- Therapy programmes are commonly used in speech pathology, therefore more likely to be available to clinicians.
- Good procedure description allows for replication of study and therapy.
- Improvement on tests does not necessarily translate to overall improvement in functional communication (and other than spontaneous conversation, this was not measured).
- No multiple baseline measures to control for spontaneous recovery, although crossover design and the specific improvement on predicted tasks after each phase of treatment help.
- Single case study design does not guarantee effectiveness for other clients with auditory comprehension impairments and jargon aphasia.

Level of Evidence (NH&MRC): Level IV.**Appraised By:** EBP Language group
Clinical Group: EBP Language**Date:** November 2009