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Integration of Syntax and Lexis in Anomia Therapy

Emma Gregory[a,*], Ruth Herbert[a], Rosemary Varley[a]

[a] *The University of Sheffield*

Introduction

Investigations into anomia have proceeded by treating nouns in isolation from syntax. Linguistic theory is increasingly embracing a more integrated approach to lexical and syntactic processing (e.g. Parallel Architecture, Jackendoff, 2007; Construction Grammar, Goldberg, 2003). A move towards treating nouns in their syntactic contexts might be timely. We propose that therapy beyond single words will increase determiner phrase production, leading to greater impact on connected speech. The aims of this study were: to investigate syntactic cueing effects on lexical retrieval in anomia; to administer a related syntactic cueing therapy and measure the effects on noun production and determiner phrase production in connected speech.

Method

Participant

KW is a 61 year-old man who sustained a single left CVA two and a half years prior to recruitment to the study. He has non-fluent non-agrammatic spoken language, significant anomia and a mild phonological encoding deficit. His anomia can be explained by a deficit in mapping from intact semantics to phonological form, with subsequent encoding errors. KW produces some determiner phrases in connected speech, usually involving high frequency determiners.

Procedure

Cueing: Naming of count and mass nouns was assessed in four cue conditions: noise (control); determiner (*some/a/an*); clause (*this is*); clause + determiner (*this is some/a/an*). Cues were presented auditorily and visually. Items were blocked by condition and noun type and counterbalanced across four sessions. The impact of cues on accuracy and reaction time was measured.

Therapy: Naming was assessed twice before therapy. The word list was then divided into two sets matched for baseline performance, one received therapy and the other was untreated. Therapy was administered twice a week for three weeks. The most effective cue from the cueing assessment was selected for therapy. KW was asked to name a target picture after hearing and seeing a syntactic cue.

Results

Cueing: Naming accuracy was higher in all three syntactic cue conditions compared to noise. Reaction time was significantly faster in the determiner condition ($t(58)= 2.741$, $p=0.008$) and clause plus determiner condition ($t(58)= 2.288$, $p=0.03$) compared to the control. The four conditions were ranked in terms of both accuracy and reaction time. The clause + determiner condition was ranked highest and was selected for therapy.

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* Corresponding author.
E-mail address: emma.jones@sheffield.ac.uk .

Therapy: There was a significant effect of therapy on picture naming for treated items (McNemar's test, $p=0.0005$), and for untreated items (McNemar's test $p=0.02$). The effect of therapy on connected speech was explored through the Cinderella story. Constructions analysed are shown in Table 1.

Table1.
Construction types in Cinderella story

Construction	Example	Pre therapy	Post therapy
Nouns in isolation (acceptable)	the coach and horses	2	5
Determiner + noun	the prince	26	35
Determiner + noun omission	a _____	10	29
Determiner + error	the brothers (target = sisters)	0	13
Determiner + adjective + noun	the old man	2	4
Determiner + adj + noun omission	the old ___	1	13

Discussion

In the case of KW, naming was cueable by phrasal and clausal cues. Therapy involving syntactic cues led to significantly improved naming of treated and untreated items, and to production of more determiner phrases in connected speech. We propose that therapy which incorporates nouns in syntactic contexts increases the likelihood of generalisation of therapy effects to untreated items and connected speech.

References

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