

**Critical Review: Possible Intervention Programs for Remediation
of Word-Finding Difficulties in School-Age Children**

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This critical review examines the possible interventions available for remediation of word-finding difficulties in school-age children. Study designs include: single subject, non-randomized clinical trials, case control and expert opinion. Overall, research supports a number of intervention methods including elaboration and/or retrieval training as well as new discourse and computer based programs.

Introduction

The term word-finding difficulties when used to describe children who have a naming or a word

statistical techniques as they are often analyzed visually rather than applying both visual and statistical methods (Backman, 1997).

Phonologically Based Approaches

German (2002) conducted a single

processing paradigmatic and syntagmatic characteristics of words to improve naming abilities. A single school aged boy participated and results indicated a decreased naming response time and naming error rate.

The procedure and rationale for this study was described clearly and in sufficient detail for replication with clinical reasoning behind each step provided. Intra and interjudge reliability were also calculated resulting in correlations of .998 and .975. Visual analysis was provided on graphed outcomes for both treatment sets and demonstrated treatment effect for both measures of naming time and naming errors. Experimental control was also demonstrated with an extended baseline for the second treatment set however, Casbey acknowledges a practice or rehearsal effect within this set between sessions one and four. Unfortunately no direct statistical methods were applied and the child included in this study was considered atypical due to the early neurological damage that resulted in speech and language difficulties. Although a detailed history was provided, the reason for inclusion of this child in the study was unclear. Overall, this limitation allows for a narrow application of the results despite some evidentiary support for the semantic treatment design.

Combined Phonological and Semantic Approach

Easton, Sheach and Easton (1997) investigated a combined semantic and phonemic elaboration approach to teaching vocabulary with four 10 year old children with word finding difficulties. The single subject design revealed an improved ability following intervention that was sustained at follow up for all children.

The premise driving this study focuses on the difficulty identifying a clear cause of word finding deficits in practice therefore the authors suggested a combined approach to target both aspects. Eligibility criteria were not reported, however, detailed descriptions of the four participants and the procedure were clearly described. The stimuli words were chosen based on appropriate criteria and assigned randomly to treatment and control groups. However, the comprehension of the stimuli was not evaluated prior to their use. Standardized assessments were also carried out at two of the three assessment phases which could be problematic as these assessments may not be sufficiently sensitive to change in order to measure progress. These assessments were repeated after treatment if allowed within the appropriate testing intervals as specified by test guidelines therefore minimizing this problem to some extent. Furthermore, the group format and AB design allow for experimental control of potential sources of internal validity such as history or maturation. Visual analyses were provided for each participant as well as an average of the four subjects for overall evaluation. These clearly

indicated a treatment effect for treatment words over controls however no direct statistical methods were employed. Overall, the outcome of the study provides some support for the use of this teaching approach for vocabulary learning as it is clinically applicable, however the lack of generalization to control words does not indicate a lasting impact and the extent to which success was a direct result of a combined semantic and phonological approach was unclear.

Discourse Based Approach

In a study by Stiegler and Hoffman (2001) three nine year old boys participated in a discourse-based, contextual intervention designed to increase word finding proficiency. Results revealed each child had a decrease in the average number of problematic word finding behaviours following intervention.

An extensive rationale is provided for the purpose of this study and it is believed that a discourse-based intervention provides a supportive context that is naturalistic and interactive. The single subject multiple baseline approach was appropriate for this purpose because it accounted for participant variability and allowed for the use of natural discourse tasks. Subject selection was clearly described along with background information for each participant. The materials and procedures were also described in sufficient detail for replication including rationale and detailed examples.

ntage of word finding behaviours were visually demonstrated and comparisons were discussed. A sign test was used appropriately to determine the significance of a higher percentage of word finding difficulties on longer segments of discourse. Task complexity differed across conditions, a weakness acknowledged by Stiegler and Hoffman but not addressed in their analysis. Overall, improvements were seen suggesting some evidence for a discourse based approach. However, further research is necessary to determine if it is an appropriate alternative to traditional word finding therapies.

Non-Randomized Clinical Trials

Non-randomized clinical trials are appropriate for small sample sizes to control for factors such as age and by assigning matched controls the outcomes can be better attributed to the treatment. Case control studies in particular, are appropriate for use with rare and heterogeneous populations such as children with word finding difficulties, however the design is inherently subject to biases and generalization of results is poor.

Comparing Semantic and Phonological Approaches

McGregor and Leonard (1989) conducted a study with four language impaired children in which two children were assigned to the treatment group and two acted as controls. Treatment involved elaboration

four week period despite knowing which training segments were the most helpful.

Expert Opinion

German (1992) described a three-pronged model of intervention that considers word finding remediation, self advocacy instruction and compensatory programming. The program was well laid out with empirical support behind the described intervention principles and remediation components. An emphasis on identifying the source of the problem allows clinicians to separate individuals with word finding difficulties into three groups each with a specific focus area. Specific retrieval strategies and remedial techniques were presented and a sample lesson plan provided information to guide clinical application. Although empirical support is provided as rationale for inclusion of aspects of the intervention protocol, a study that employs this procedure with a sample of the population would further support its use.

Discussion

Through a collection of the literature it has been demonstrated that, in general, a focus on word finding within the therapy setting can be beneficial. However, the approach to treatment is arguable. There is support for a focus on elaboration or semantic training alone demonstrated by two of the above studies, retrieval or phonological training alone by four studies and a dual focus by three studies. With varying populations and varying strength in procedure and statistical analyses a definite conclusion cannot be made. The definition of activities pertaining to these groups also varies across some authors. For instance, rhyming techniques are referred to as elaboration training by McGregor & Leonard (1989) but as phonological training by Wing (1990). In short, the question remains whether both approaches are necessary to employ for improvement to be seen in a large majority of the population.

The question of single word confrontational naming procedures versus discourse based training also remains. While one of the reviewed articles utilized a discourse based approach the resulting evidence was guarded, raising questions as to whether a more naturalistic learning environment is appropriate. More research is needed on the success of discourse based procedures and comparisons with a traditional single word naming approach.

Treatment of word finding difficulties in children with language impairment is a relatively unstudied area within the literature and despite models demonstrating word finding processes within the brain, the results presented here demonstrate how difficult it is to identify the relative influence of semantic and phonological information presented in an elaboration or

retrieval setting. Future research should continue to consider the contribution of semantic versus phonological activities as well as modifying the intervention environment to be clinically applicable. The benefit of an individual focus (elaboration alone, retrieval alone) versus a combined approach should also continue to be investigated. Research considering subgroups of individuals with word finding could also help narrow the approaches that would benefit individuals who present with certain difficult word-finding behaviours, similar to the subgroups described in German (1992).

Conclusion

The evidence presented supports a number of remediation techniques with no one program superior to the rest. Therefore, treatment in general is effective in improving word finding difficulties but further research is required for support of specific treatment techniques.

Clinical Implications

The bottom line is therapy designed to target word finding in children should not be overlooked. Not only is improved word finding important quality of life in social and academic settings but the evidence strongly suggests it is possible to see improvement in this ability. Wh

difficulties in children, German (1992) provides a good starting point for clinicians and a means through which to think about planning treatment. The full body of literature reported here also provides well described therapy activities and procedures that can be adapted to individual clients. It is the heterogeneity of this population that makes it difficult to say whether one procedure is better than another. It is therefore, the responsibility to apply research practices within their treatment to determine whether a chosen approach is appropriate for that individual.

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