

A number of studies have been conducted to verify the efficacy of generalization methods for skills acquired in aphasia therapy. Generalization, which refers to the application of acquired skills in untrained circumstances, and maintenance, defined as the continuous application of acquired skills following termination of intervention, are the ultimate goals of any rehabilitation program (Thompson, 1998). Traditionally, generalization was considered a passive phenomenon but the need to actively program generalization has been recognized for some time now as an issue requiring both emphasis and effective techniques (Stokes & Baer, 1977). In fact, functional generalization research in aphasia, although limited, indicates that in spite of often marked acquisition effects, generalization behaviors not trained directly, and to contexts other than those in which training is conducted, is not always forthcoming (Thompson, 1998).

Furthermore, generalization is of paramount importance in aphasia research due to the increasing demands for effective intervention programs. Although this issue has been raised in a growing number of studies, it remains unclear which methods should be used. Measuring generalization and maintenance in natural contexts is often difficult or impossible due to financial and time-related constraints. For this reason, optimal use of communication for adults with aphasia in their natural settings remains largely unstudied (Lyon, 1992).

## OBJECTIVES

The main objectives of this paper are to (1) expose, explain and compare existing intervention programs which have activities or phases specifically devoted to generalization, (2) determine which of these methods have been shown to be most effective and identify their level of evidence, and (3) recommend avenues for possible future research.

## METHODS

Studies included in the review were those which investigated generalization in aphasia intervention and were published between 1970 and 2004 in journals including : *Stroke*, *Journal of Speech and Hearing Disorders*, *Journal of Medical Speech-Language Pathology*, *Aphasiology*, *Journal of Speech, Language, and Hearing Research*, *Asia Pacific Journal of Speech, Language and Hearing*, *Cognitive Neuropsychology*, *Journal of Applied Behavior Analysis*, *Seminars in Speech and Language*, *AAC : Augmentative & Alternative Communication*, *Brain and Language*, *Journal of Speech and Hearing Research*, *Neuropsychological Rehabilitation*, *Topics in Language Disorders*, *Topics in Stroke Rehabilitation*, *Activities, Adaptation and Aging*, *International Journal of Communication Disorders*, *European Journal of Disorders of Communication*. In addition, studies published in *Clinical Aphasiology*, a compilation of papers reported at the Clinical Aphasiology Conferences, as well as studies published in book chapters were also reviewed.

The method used for the identification of papers included computer databases (Evidence Based Medicine Reviews, PsychInfo, Medline, Sociofile, CINAHL, Cochrane Library, ERIC, Health and Psychosocial Instruments, LLBA, HealthSTAR, MLA Bibliography, Rehab Data, Citation Indexes, Web of Knowledge/Science), book chapters,

reference lists of already selected papers, and articles recommended by professors. The key search words used were “aphasia” combined with : “generalization, generalization facilitation, transfer, carry-over, community, community integration, quality of life, functional communication, functional outcomes, social integration, maintenance, work integration, interpersonal relationships, leisure activities, activities of daily living, social validation, self-monitoring, efficacy, treatment evaluation, treatment transfer, post-therapy”.

In order for an article to be included in the review, the generalization strategy used, the population studied, the type of intervention administered, the behavior measured for generalization, and the efficacy of the strategy used needed to be explicitly stated. Qualitative and quantitative studies describing the outcomes of a specific generalization strategy, or exploring factors which could potentially facilitate generalization were retained. Only studies where the participants were 18 years of age or older were included. In addition, the rehabilitation program needed to incorporate integrated daily activities or explicitly target the daily lives of the participants.

As a final inclusion criterion the intervention method administered was of a functional nature rather than impairment-based. Impairment-based stimulation methods have as the core element of treatment the restoration of language. In these cases, generalization may be measured by a word count reflecting lexical access, for instance, to untreated items. On the other hand, intervention methods considered to be of a functional nature target the process of exchanging content rather than focusing on the linguistic deficit (Lyon, 1992). In functional aphasia therapy, behaviors chosen for training are functionally significant behaviors or responses that can be defined as those used in the natural environment. The reason for choosing only articles which examined functional treatments was that the more impairment-based treatments were not as explicit in how they directly impacted the life of the client. Nonetheless, impairment-based studies which added a functional generalization phase to their investigation, in the sense of impacting daily life, were retained for review. Consequently, many of the impairment-based studies did not meet the above-mentioned criterion for review.

In order to determine if these criteria were fulfilled, the title of the article was first examined, then the abstract, and finally the complete article was read. To increase the reliability of the relevance of each chosen article, they were first evaluated by the first author and subsequently by two co-authors. A consensus was reached amongst the three researchers as to whether or not the article was relevant for inclusion.

Once chosen, papers and chapters were reviewed rigorously to extract specific information allowing completion of quantitative and qualitative review forms (Law, Stewart, Letts, Pollock, Bosch & Westmorland, 1998). Items for the quantitative studies included purpose, need for study, design, sample size, outcomes, details of the intervention, results, conclusions and implications. For qualitative studies, review items included purpose, need for study, qualitative design, issues related to sampling and participant selection, methods for data collection, and the context of the study. To increase reliability of the data, the articles themselves, along with their completed review form, were submitted to a second reviewer for verification. Forms were then reviewed a final time by the initial researcher to make any necessary changes.

Information from each of the review forms was inserted in a large table for comparison. Fifty-two articles were retained for review. Studies with similar techniques

were grouped together and compared and this was done for studies with differing levels of evidence. Results are currently being tabulated and analyzed. Findings will be reported according to the type of generalization techniques used to facilitate social re-integration, an analysis of the evidence supporting these techniques and suggestions for future directions.

### **Références**

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