





This study indicates that pictographic language interventions by CAT do not generalize to improvements in reading. Although assessments were appropriate and comprehensive, the regrouping of participants for analysis complicates the conclusion of treatment effectiveness. In all, this study provides moderate evidence on the topic.

In a 1992 preliminary study, Katz and Wertz investigated the use of CAT as a treatment protocol for reading rehabilitation in a randomized clinical trial of 43 adults with aphasia. Participants were randomly assigned to one of three groups: *computer treatment* (CTx; n=13), *computer stimulation* (CS; n=15), and *no treatment* (NT, n=15). The CTx group participated in computer-based visual matching and reading comprehension exercises; the program also automatically adjusted the hierarchy level of trials based on the participant's accuracy. The CS group was given cognitive activities and arcade-style games. Appropriate assessments were conducted at pre, mid, and post-treatment intervals. Statistical analysis using *t*-tests revealed improvements in the CTx group but not in the other groups. CTx participants were also able to use the software with minimal assistance from the clinician.

Katz and Wertz (1992) implemented multiple *t*-tests when analyzing within-group changes and analysis of variance (ANOVA) when analyzing between-group differences; they do not justify the choice of statistical test in each instance. The authors provide a quantitative

was matched to a control group of healthy participants. Participants with aphasia engaged in weekly sessions with *Afa-System*, a CAT program that has specific exercises for several language domains, including reading. Pre-post assessment tests were appropriate. The authors found post-treatment improvements in reading in the aphasia group; furthermore, there was no indication of a difference between the aphasia group and control group on the reading subtest post-treatment.

The authors analyzed within-group post-treatment changes using the Wilcoxon Z test, which is appropriate for small samples. Statistical results indicated that participants with aphasia improved on one subtest measure; on other measures, participants with aphasia performed more poorly than the control group, indicating continued dysfunction post-therapy. The authors do not further analyze reading.

ojek and Bolewska's (2013) study demonstrated effectiveness of a language-based CAT program in improving reading skills in persons with aphasia, although further exploration of improvements would provide more compelling evidence. In all, this study offers moderate-to-high evidence in favour of reading rehabilitation by CAT.

Wertz and Katz (2004) conducted a qualitative retrospective review of studies on CAT for aphasia in order to quantify and analyze the body of evidence on the topic. The authors report on over 20 studies on CAT for aphasia and categorize the strength of studies by level of evidence and by stage of clinical trial. The authors found only one study (their own 1997 study), which involved a substantiated hypothesis, outcome measures, and treatment protocols that were explored in previous studies. Although many studies offered high levels of evidence, the authors conclude that additional studies on CAT would contribute more evidence to the research base.

Wertz and Katz (2004) reviewed, rated, and ranked each

