NSW Speech Pathology
Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: Independent computerised script training in chronic aphasia improves script performance in terms of content, grammar and rate of production. Maintenance of effects not assessed.

Clinical Question [patient/problem, intervention, (comparison), outcome]:
Is computer-only therapy in people with chronic aphasia efficacious?

Citation: Cherney, L.R, Halper, A.S., Holland, A.L., & Cole, R. (2008). Computerised script training for aphasia: Preliminary results. *American Journal of Speech-Language Pathology.* (17). 19-34.

Design/Method: Case series design. AphasiaScripts software uses a virtual therapist to provide script training with the ability to adjust cues. 3 scripts were developed by Participants with assistance from the speech pathologist (initiator, responder and a monologue). Computer Data collected: daily and weekly activity logs and speech attempts digitally recorded. Baseline Assessment completed pre and post: WAB, CADL-2, Quality of Communication Life Scale (QCL) and exit interviews. Script performance measured by: % script-related words produced, total number morphemes, nouns, verbs and modifiers produced and script-related words per minute. Script performance measured pre and post treatment as well as weekly language probes (weeks 6-15)
Treatment protocol: Weeks 1-5 develop and automate scripts with the speech pathologist. Weeks 6-15 script practice which involves independent home practice 30 mins daily (minimum) and weekly reviews with the speech pathologist (30 mins) to ensure correct practice.
Script data was collated and checked by an independent therapist to assess inter-rater reliability.

Participants: 3 participants at least 6 months post stroke (range 18/12 to 48/12). Age range 65- 78

Experimental Group: Recruitment of participants not discussed. Literacy and education levels achieved equivalent. Heterogeneous group: Broca's, Wernickes and Anomic aphasia.

Control Group: No control group.

Results: Descriptive statistics only. Baseline script performance scores stable prior to treatment for all participants. Script performance graphed for individual participants for all 3 scripts. Visual analysis indicated positive changes in content, grammatical productivity and rate of script production for all participants across all scripts. Formal Assessment 2/3 improved above 5 points on WAB (beyond standard error of measurement), nil change with CADL-2 and only 1 positive change in QCL. Exit interview- positive changes reported, verbatim script provided and 5 themes identified; increased verbal communication, improved communication skills in other modalities, communication changes noticed by others, increased confidence and satisfaction with software used.

Comments – Strengths: Good description of software and clearly defined treatment protocol increases internal validity of study. Good inter-rater reliability achieved (96%). Overall nil overt significant changes on formal Assessment however positive patient report and improved script results. No compliance issues with software and independent daily practice well above the minimum 3.5 hrs/week. Critical reflection/suggestions for future research provided. **Weaknesses** No control group and small sample size. No follow up to assess maintenance effects. No statistical analysis. Limited analysis of qualitative data: approach not described in methodology, thematic analysis attempted but identified categories only. Pre and post data reported only with no analysis or mention of the weekly probes.

Level of Evidence (NH&MRC): IV case series.

Appraised By: Hunter ACI EBP Group

Date: 21/9/11