Effects of ARCS on an Adult with Anomic Aphasia in a Cooperative Group Therapy Model

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Background

Research suggests **Attentive Reading and Constrained Summarization** (ARCS) improves spoken and written discourse and word-finding for persons with mild anomic aphasia (Rogalski & Edmonds, 2008; Rogalski, Edmonds, Daly, & Gardner, 2013; Obermeyer & Edmonds, 2018).

Objective

- To date, ARCS has only been studied using an individual therapy model.

- Our purpose was to investigate its efficacy for mild anomic aphasia within a dyadic cooperative group model.

Conclusions

- Results suggest improvement, despite reduced dose (14 vs. 18 sessions, and receiving ARCS, in "player" role for half of each session). Thus, an individual with mild anomic aphasia may benefit from implementation of the ARCS protocol in a cooperative therapy model.

- Some benefit may occur in the "coach" role, as the participant receives language stimulation while facilitating cueing for partner.

- Post-treatment survey (Likert scale from 1-5): reported he "enjoyed the treatment; would highly recommend it to others with aphasia."

- Improvements in "talking to a stranger."

- Future research using this design should be replicated with a larger sample size and would benefit from including measurements on potential treatment impacts on client's quality of life.

References

Avent, J. R. (1997). *Manual of Cooperative Group Treatment for Aphasia*. Boston: Butterworth-Heinemann.

Obermeyer, J. A. & Edmonds, L. A. (2018). Attentive reading with constrained summarization adapted to address written discourse in people with mild aphasia. *American Journal of Speech-Language Pathology*, 27, 392-405. https://doi.org/10.1044/2017_AJSLP-16-0200.

Nicholas, L. E., & Brookshire, R. H. (1993). A system for quantifying the informativeness and efficiency of the connected speech of adults with aphasia. *Journal of Speech & Hearing Research, 36(2)*, 338-350. http://dx.doi.org/10.1044/jshr.3602.338.

Rogalski, Y. & Edmonds, L.A. (2008). Attentive reading and constrained summarization (ARCS) treatment in primary progressive aphasia: a case study. *Aphasiology, 22*, 763-775. http://dx.doi.org/10.1080/02687030701803796.

Rogalski, Y., Edmonds, L. A., Daly, V. R., & Gardner, M. J. (2013). Attentive Reading and Constrained Summarisation (ARCS) discourse treatment for chronic Wernicke's aphasia.) *Aphasiology, 27(10)*, 1232-1251. doi:10.1080/02687038.2013.810327.
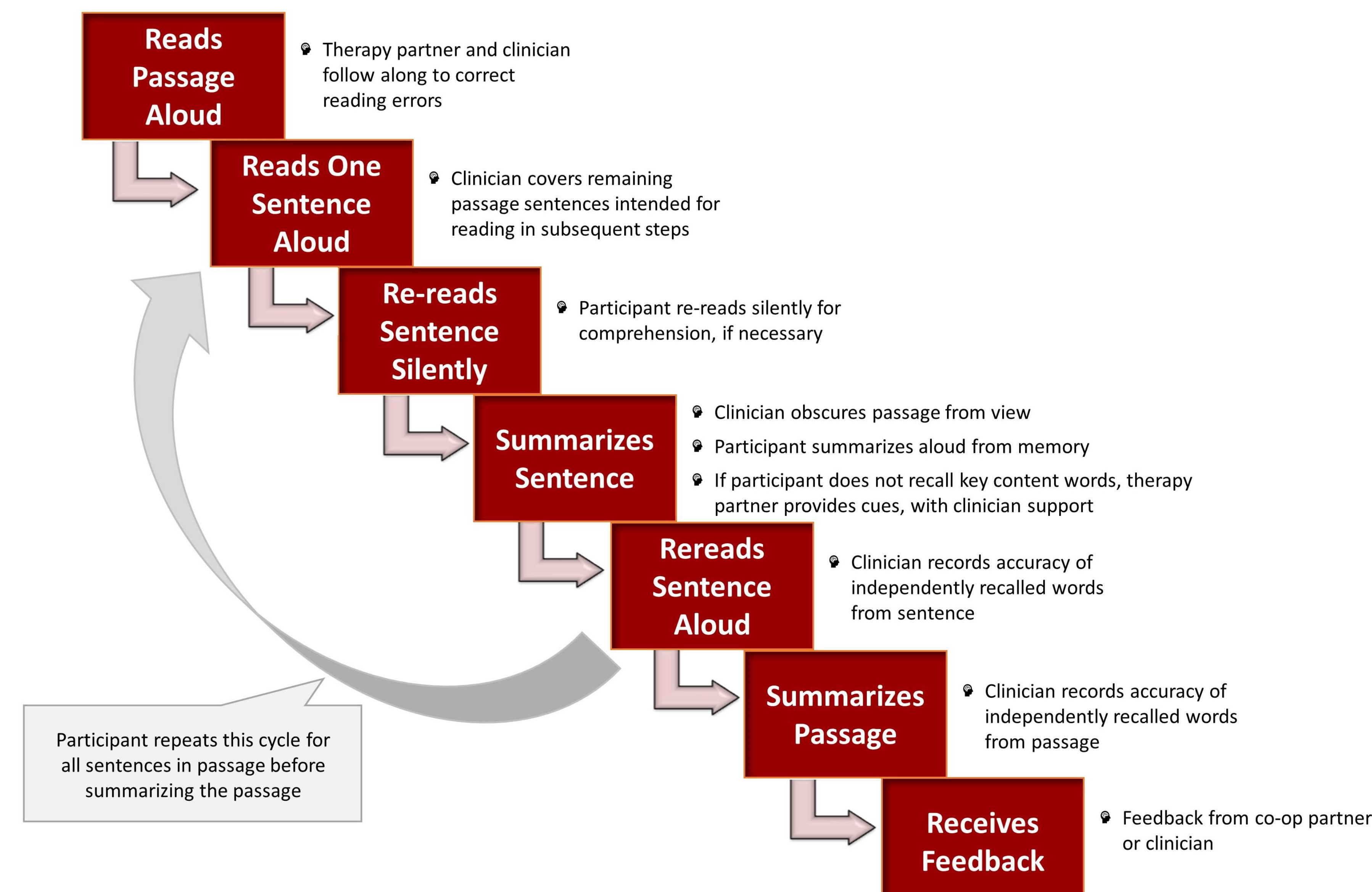
Procedures

Participant:

- 79-year-old male with mild anomic aphasia (WAB-R: Fluency = 9, Comprehension = 9.5, Repetition = 8.2, Naming = 3.5; AQ = 87.9) following a left-hemisphere ischemic cerebrovascular accident, 1 year post onset.

- Pre-treatment impairment/status: expressive language characterized by fluent, circumlocutory speech with hesitations. Auditory comprehension adequate for simple yes/no questions and simple commands.

- Three hours of group treatment twice weekly in addition to co-op therapy.

- Treatment partner also had aphasia, but partner data not included due to previous ARCS treatment exposure.
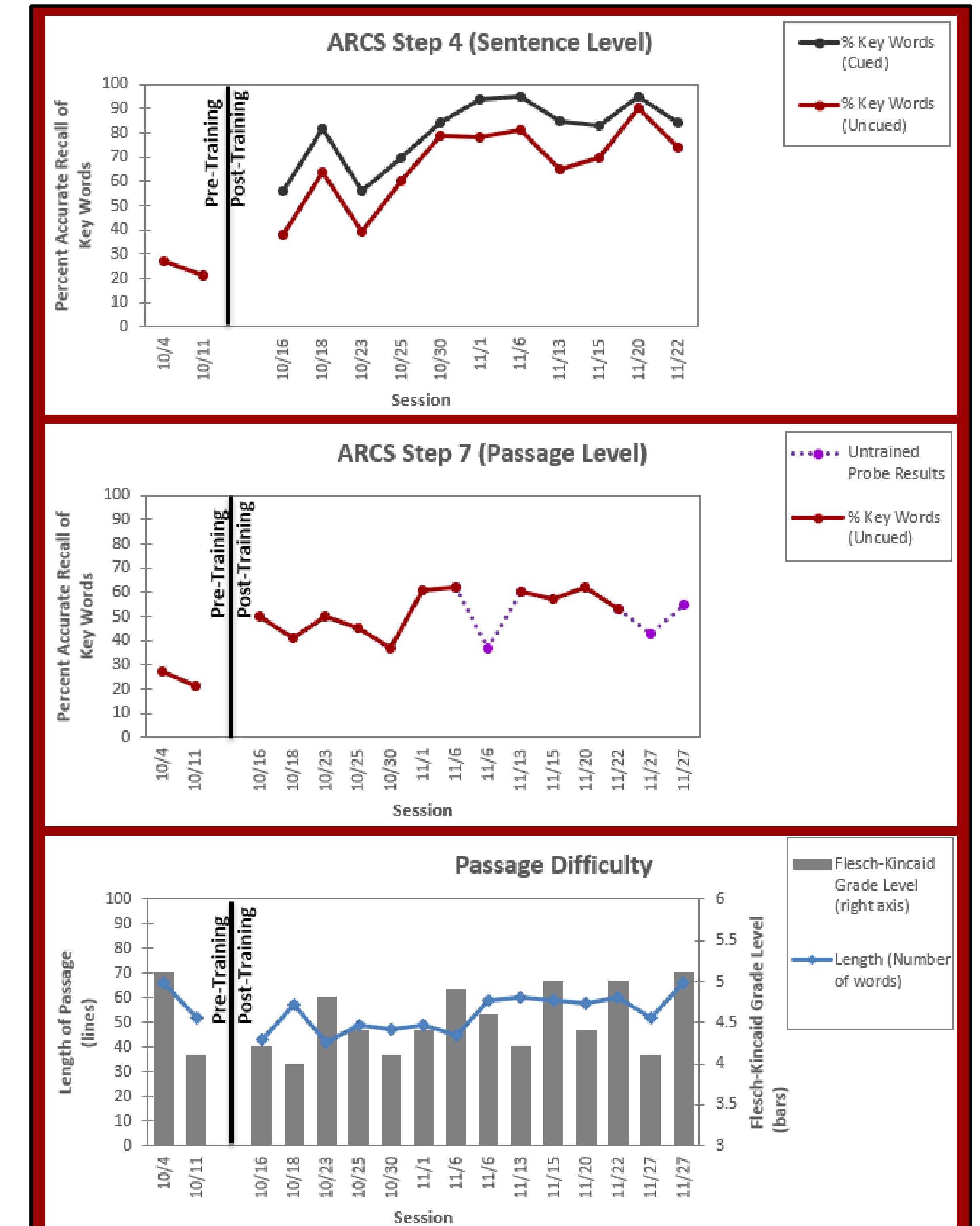
Procedures:

- Baseline measures: WAB-R, CIUs, pre-, mid-, post- treatment untrained probes.

- ARCS treatment was implemented, modified to accommodate Avent's (1997) cooperative group model (with each dyad partner functioning either as a "coach" or "player" during the task), thus changes included:

  – Cueing was provided by the co-op partner and clinician instead of solely by clinician.

  – Dose: Fourteen 55-minute treatment sessions (vs. eighteen 50-minute sessions).

  – Each client was the coach for half of each session and player the other half

- Participant completed one 40-60 word passage (Flesch-Kincaid Grade Level 4-5) with 15-25 key content words, per session. Cueing faded over course of Tx.

Reads Passage Aloud — Therapy partner and clinician follow along to correct reading errors

Reads One Sentence Aloud — Clinician covers remaining passage sentences intended for reading in subsequent steps

Re-reads Sentence Silently — Participant re-reads silently for comprehension, if necessary

Summarizes Sentence — Clinician obscures passage from view — Participant summarizes aloud from memory — If participant does not recall key content words, therapy partner provides cues, with clinician support

Rereads Sentence Aloud — Clinician records accuracy of independently recalled words from sentence

Summarizes Passage — Clinician records accuracy of independently recalled words from passage

Receives Feedback — Feedback from co-op partner or clinician

Participant repeats this cycle for all sentences in passage before summarizing the passage

Outcomes

Treatment-level Measures suggest improvement in key word recall at sentence level.

Probe (Passage Level)	Baseline	End of Treatment
1	27%	43%
2	21%	55%
Average	24%	49%

Outcome Measures:
The participant also showed improvements in informativeness and efficiency of connected speech and sentence comprehension post therapy.

Measure	Baseline	Post Treatment
Western Aphasia Battery: Comprehension of Sentences (in Reading)	8/40	24/40
Percent Correct Information Units (Nicholas & Brookshire, 1993)	57%	74%

Acknowledgements