

Modifying Multimodal Communication Treatment to Increase Functional Outcomes and Accessibility: A Case Study



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INTRODUCTION

- Multimodal Communication Treatment (MCT) teaches communication modalities (gesturing, drawing, using a communication book, speaking, writing) to support breakdown resolution by people with aphasia (Purdy & VanDyke, 2011).
- MCT improves breakdown resolution during single- or two-word tasks (Purdy & Wallace, 2016). However, life participation often involves communication within discourse and functional activities.
- Telepractice can increase access to treatment.
- Determining the feasibility and effectiveness of telepractice-delivered MCT is critical because it involves the management of multiple materials, and technology skills (e.g., camera angle adjustments, dual screens).
- This case study highlights our preliminary evaluation of the feasibility and effectiveness of a modified MCT including discourse tasks in telepractice (teleMCT+DG)**

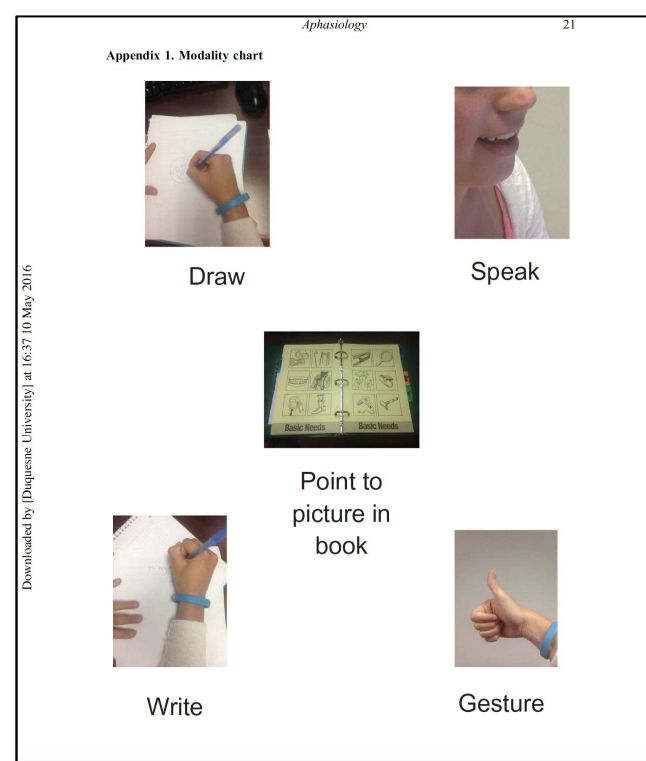
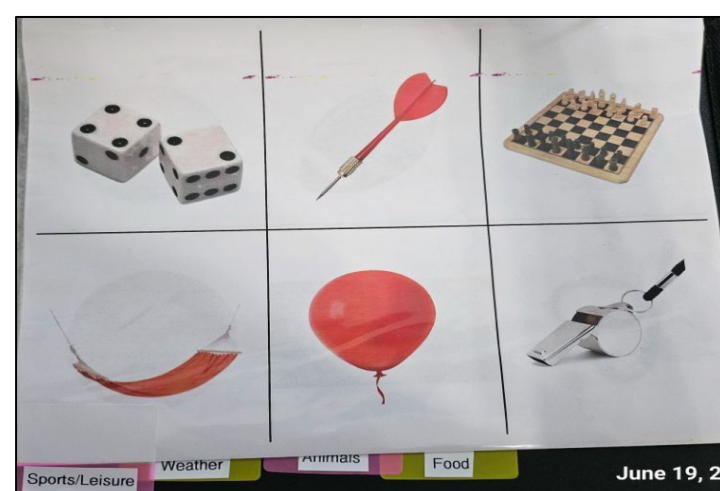
METHOD

Steven

- 75-year-old white male
- 8 years post-stroke
- Mild anomic aphasia
- No right-sided weakness
- No e-helper assistance requested
- Standardized Test Scores
 - Western Aphasia Battery-Revised Aphasia Quotient: 91.2/100
 - Stroke and Aphasia Quality of Life, Communication Score: 2.68/7
 - Cognitive Linguistic Quick Test, Composite Severity Rating: mild
 - Pyramids and Palm Trees Test: 51/52

Materials

- Standardized Tests
- 10 page communication book with tripod
- Webcam, laptop computer, document, camera
- Word Lists (30 common object nouns)
 - 20 trained and 10 untrained common objects
- Five scene images for each target item



Procedure

Pre-Treatment Assessment

Treatment Sessions

Post-Treatment Assessment

- Consent Form
- Standardized Tests
- Treatment Probes
- Familiarization with Materials

Individual Treatment

- 2 times per week
- Referential Communication Task: Requesting an object card using any communication modalities
- Modality Production Probes: Modality instruction in five modalities with repetition. Four targets per session for four sessions.
- Story generation: Generate a story about a scene using targets with clinician cues/prompts. Reread the story.

Group Treatment

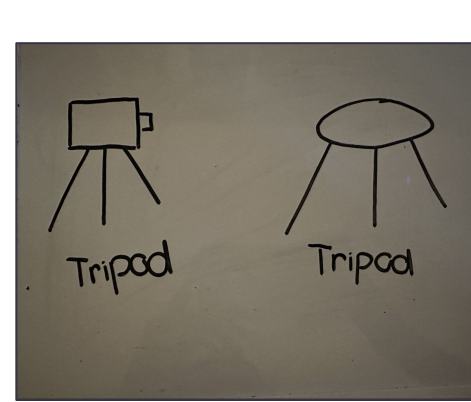
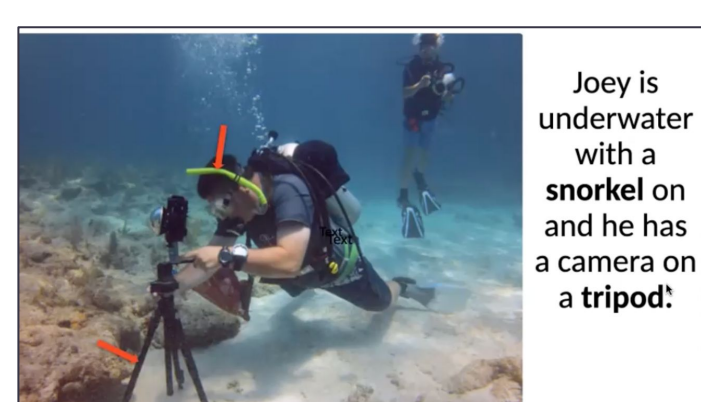
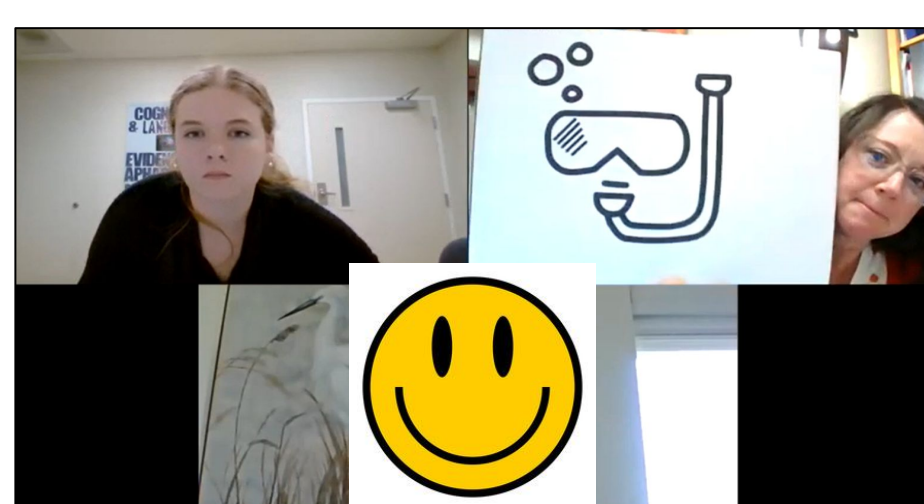
- 1 time per week
- Greetings and conversation
- Review of target items and modalities
- Group members shared their story about a scene

- Standardized Tests
- Treatment Probes
- Ratings
- Interview



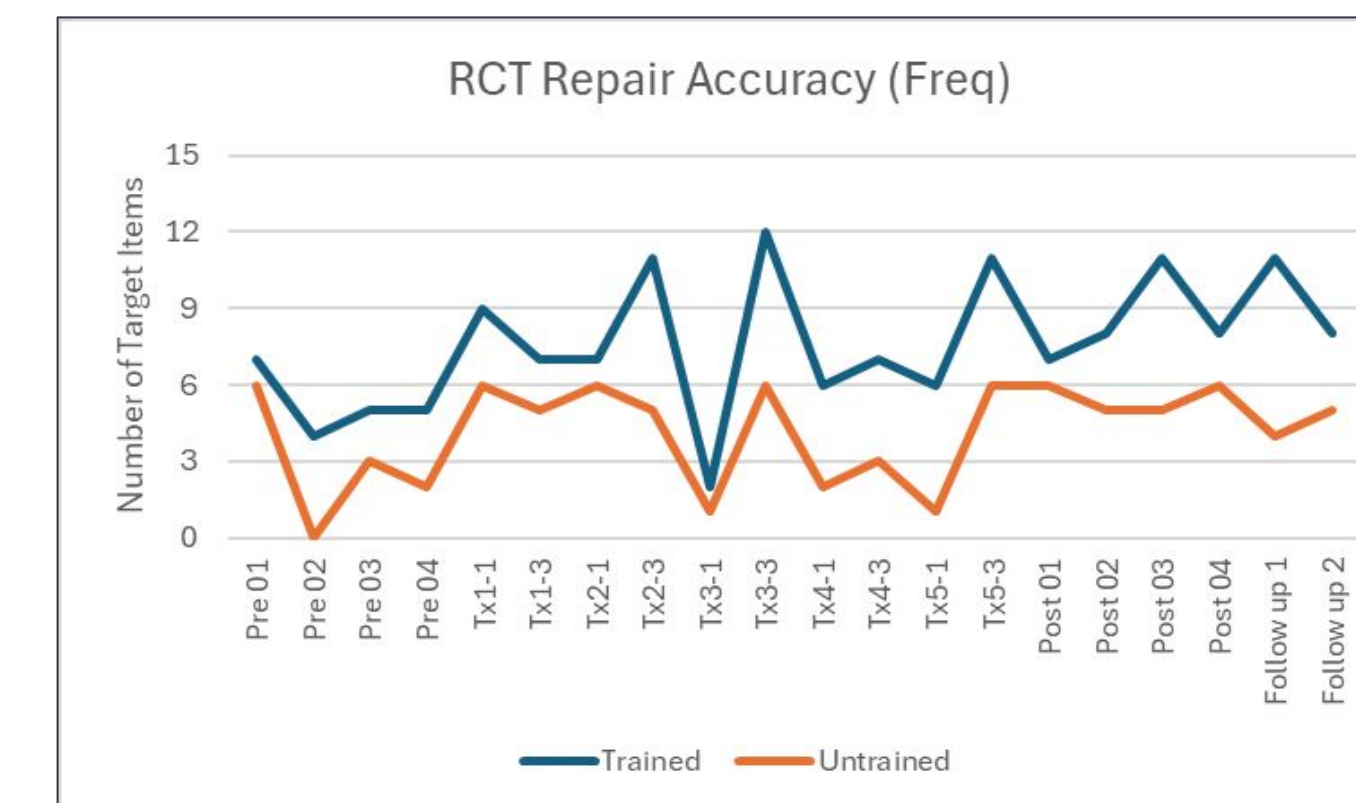
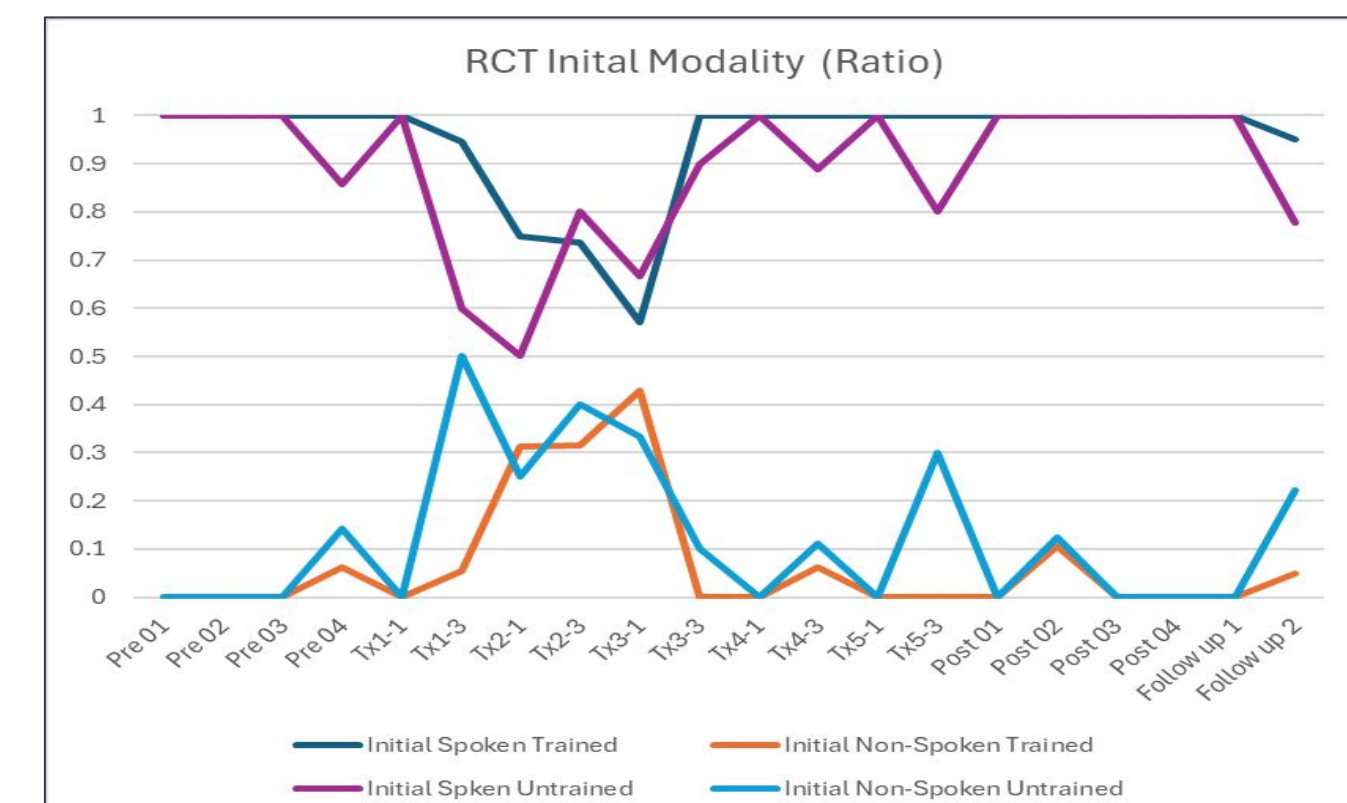
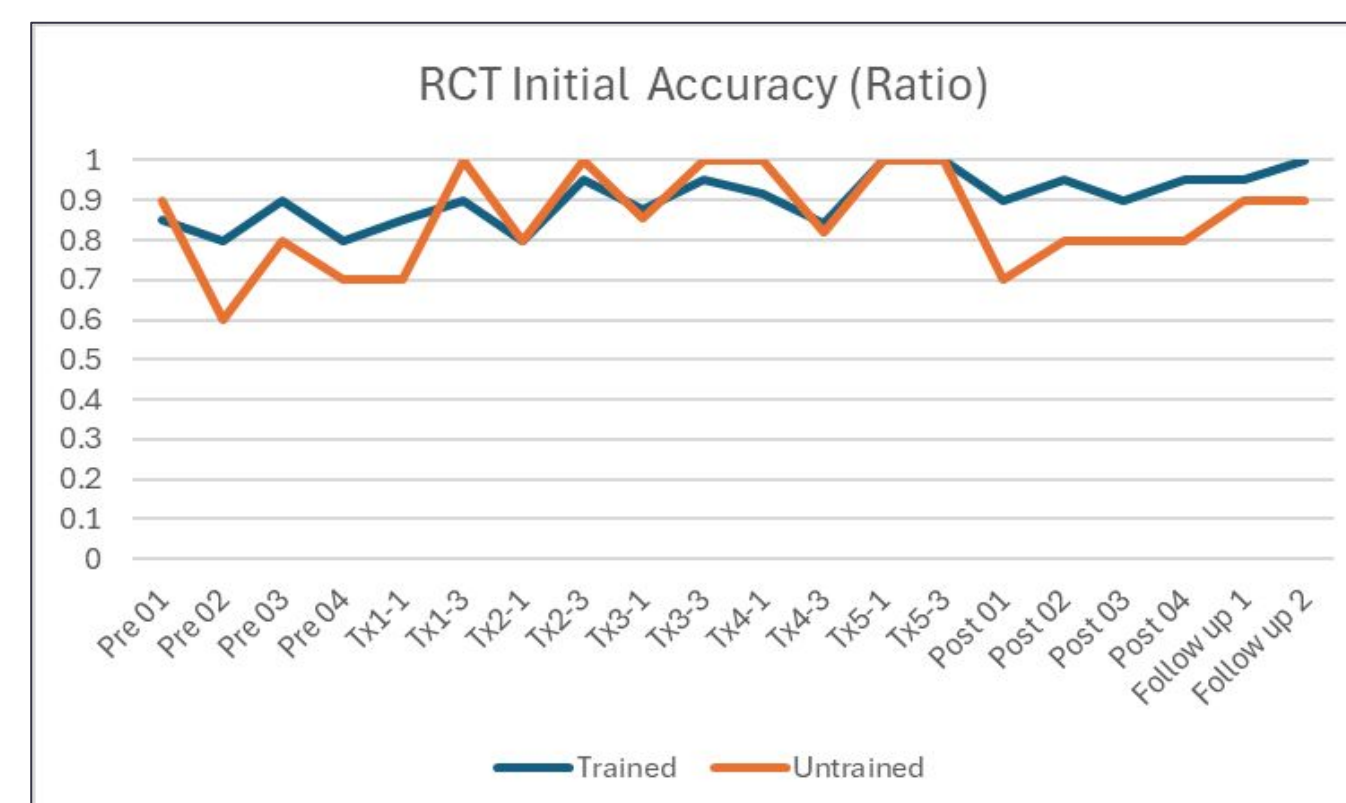
Modifications for Telepractice

- Camera settings adjusted for visibility of communication modalities
- Remote control access for image labeling, pointing, and directing
- Communication book with built-in stand for one-hand usage
- Accessible font type and size for story generation task



RESULTS

Steven's Communication Probe Results



Steven's Post-Treatment Ratings

- Rated 5/5 enjoyment of treatment. Reasons: Clinician made therapy fun, felt productive, opportunity to communicate with others, created a good relationship with the clinician, felt safe to share emotions.
- Liked both individual and group treatment.
 - Individual treatment benefits: can focus on his own work & felt shy interacting with people in group.
 - Group treatment benefits: activities were more fun with others, fun to talk to other people in a group, felt encouraged by other people with aphasia.
- Used drawing the least of all modalities. Reasons: Embarrassed of drawings, Drawings do not communicate words, Do not like having people wait for me to draw. Also, disliked carrying the communication book.
- Steven highly endorsed the telepractice format. Reasons: Easier to attend, No transportation is needed, No difficulty with walking, Did not have to rely on carepartner to take me to therapy, Did not have to get ready. Allowed for flexibility in scheduling therapy sessions, Felt more comfortable in home than in a clinic setting.

Steven's Reflections

- More comfortable and confident with other modalities now
 - "Yeah and now I will do it [used a gesture] and if they don't like it-- whatever-- it's not me, it's them."
 - "...when you get out and sometimes you can't say what you want to say. I do gestures or try to write or something. So that helped too."
- Gesturing and writing more after treatment
 - "You know, I've used them [gestures] before but I didn't use them a whole lot but now I am using them a whole lot."
 - "Before I guess I was saying 'well I can't write so just go' but after we done that this for a while I can write some if you tried and practiced on it you'd be better."
- Teletherapy over zoom offered flexible and accessible form of treatment post-COVID
 - "Yes, we have an hour or whatever and...you have to do it and get out."
 - Recommended a training manual for doing telepractice (e.g., Zoom).

DISCUSSION

- Steven rated this modified treatment in telepractice format as highly enjoyable
 - He had few recommendations for improving treatment (manual)
 - Varied activities allowed him to practice single words and sentences, in 1:1 sessions and in a group. The telepractice format allowed him to participate more fully.
- His use of non-spoken modalities increased with treatment and he returned to more spoken communication at the end of treatment. He successfully repaired communication breakdowns with a potential increasing trend toward the end of treatment.
- Other people with aphasia may benefit from additional modifications evaluated in future studies
 - Zoom live captioning/keyword visuals
 - Zoom tutorials prior to sessions & a telepractice manual
 - Increased personalization of scenes, target images, and non-spoken modalities (e.g., gestures)