Verb Therapy Using Collaborative Referencing

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Verb Retrieval and Aphasia

Aphasia is a communication disorder caused by brain damage that results in language impairments in the areas of comprehension, formation, and use. (Nicolosi, Harryman, & Krescheck, 1989).

Many individuals with aphasia have more difficulty with verb retrieval than noun retrieval.
Verb Retrieval and Aphasia

- Reasons for verb retrieval difficulty in individuals with aphasia include, imageability of the word, number of arguments, semantic complexity.

- Treatments for word retrieval with individuals with aphasia include, stimulation-facilitation, deblocking, operant conditioning, and functional/compensatory techniques. These treatments are not specific to verbs.
Collaborative Referencing Tasks

- Collaborative Referencing is the process through which people work together, using past knowledge and experiences, to establish a shared perspective (Clark and Wilkes-Gibbs, 1986).

- Collaborative Referencing tasks are a type of barrier task that has been found to increase noun retrieval in individuals with aphasia.
Collaborative Referencing Tasks

- Partners sit across from each other separated by a barrier.

- Both have a numbered board and a matching set of pictures.

- The object is for the director to name picture cards so that the matcher can place pictures in the same sequence.
During collaborative referencing tasks partners typically progress through 3 phases:

- **Initiation**: first full phrase, includes detailed descriptions
- **Refashioning**: repairs, expansions, replacements
- **Acceptance**: both partners agree
Collaborative Referencing Studies

- Clark and Wilkes-Gibbs (1986)
  - Participants were 8 pairs of college students.
  - Stimuli consisted of 12 Chinese Tangram figures.
  - Separated by an opaque barrier.
  - Number of words and conversational turns needed for successful matching decreased across trials.
  - Cards were placed with 98% accuracy.
Collaborative Referencing Studies

- Hengst (2003) study
  - Patterned after Clark and Wilkes-Gibbs (1986).
  - Studied collaborative referencing between individuals with aphasia and routine communication partners.
  - Separated by a partial barrier
  - Resulted in accurate card placement, simplification of initiating descriptions, and a decrease in collaborative effort across trials.
  - Partners made references from shared knowledge and history.
Using collaborative referencing tasks with individuals with aphasia to match pictures depicting verbs has not been studied.

Research questions

- Does a person with fluent aphasia learn to use verbs through collaborative referencing?
- Is the verb learning pattern consistent with the collaborative referencing model?
- What types of cues are most effective for the participant during verb learning?
59 year old male with fluent aphasia
2 years post onset
Receiving speech-language therapy two times a week
Previously unsuccessful at verb learning
Aphasia Diagnostic Profile indicated Wernicke’s aphasia
Research Design

- Descriptive Case Study
- Independent Variable:
  - Collaborative Referencing Task
- Dependent Variables:
  - Number of correctly labeled verbs
  - Responses to partner cues
  - Adherence to the collaborative referencing model
Procedures

- The routine communication partner was the participant’s wife.
- Each session consisted of six trials.
- Correct responses included the targeted verb label and refashioned verb labels when the label had been accepted by the participant and his wife.
- Verbs were considered trained when the participant named 8 out of 10 labels correctly over 2 trials.
- After criterion was met, the next picture set was targeted.
Materials

- Stimuli consisted of 3 sets of 10 color photographs of the participant performing activities.
- Fiber board barrier.
- 2 boards numbered 1 through 10
Setup
Transcripts were coded using the following system, based on cues provided by the communication partner:

- Q = Response to a question
- S = Sentence completion
- D = Description
- P = Phonemic cueing
Inter-rater reliability of transcription and coding was completed by the faculty mentor watching 20% of the video samples while reviewing data forms.

- Transcription: 94%
- Coding: 82%
  - Description cues: 93%
  - Phonemic cues: 93%
  - Question cues: 82%
  - Sentence completion cues: 90%
Criterion was met for all 3 verb picture sets.
The number correct for each picture set increased across sessions.
Across all picture sets, the number of correct verb labels on the first trial when a set was re-introduced was greater than the initial baseline for that picture set.
Mean Number of Question Cues and Correct Responses to Cues

- Mean number of question cues = 1.2, range 0-10, SD = 1.88
- Mean number of correct responses to question cues = 0.25, range = 0-2, SD = 0.56
- Correlation between mean number of question cues and mean number of correct responses
  - \( r = 0.66 \)
  - \( p = 0.001 \)
Mean Number of Phonemic Cues and Correct Responses to Cues

- Mean number of phonemic cues in each session=1.55, range 0-5, SD=.69
- Mean number of correct responses to phonemic cues=.85, range=0-4, SD=.81
- Correlation between mean number of phonemic cues and mean number of correct responses
  - r=.82
  - p=<.001
Mean Number of Description Cues and Correct Responses

- Mean number of description cues = .95, range 0-2, SD = .69
- Mean number of correct responses = .15, range 0-1, SD = .37
- Correlation between the mean number of description cues and mean number of correct responses
  - r = .24
  - p = .15
Mean Number of Sentence Completion Cues and Correct Responses to Cues

- Mean number of sentence completion cues = 1.25, range = 0-6, SD = 1.25
- Mean number of correct responses = 0.15, range = 0-2, SD = 0.37
- Correlation between mean number of sentence completion cues and mean number of correct responses
  - $r = 0.35$
  - $p = 0.06$
Discussion

- For this participant collaborative referencing seemed to be a beneficial supplement to speech therapy.
- The participant benefited mostly from phonemic cueing and question prompts.
- The collaborative referencing model was followed when the targeted label was not initially accepted by both individuals.
Limitations and Future Research

Limitations

- This study was a case study design, therefore results only extend to this participant.
- Only 4 types of cues were analyzed.
- Feedback given to the partner was not analyzed.

Future Research

- Indications for when to use collaborative referencing
- Training procedures for partners
Questions??
References

References