

AAC Narrative Intervention

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Overview

- Rationale Behind AAC Narrative Intervention
- Pilot Study
- Discussion of Dissertation
- Research Challenges

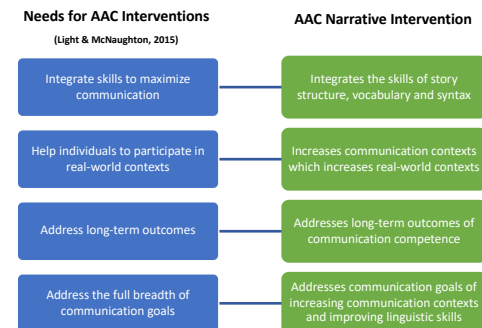


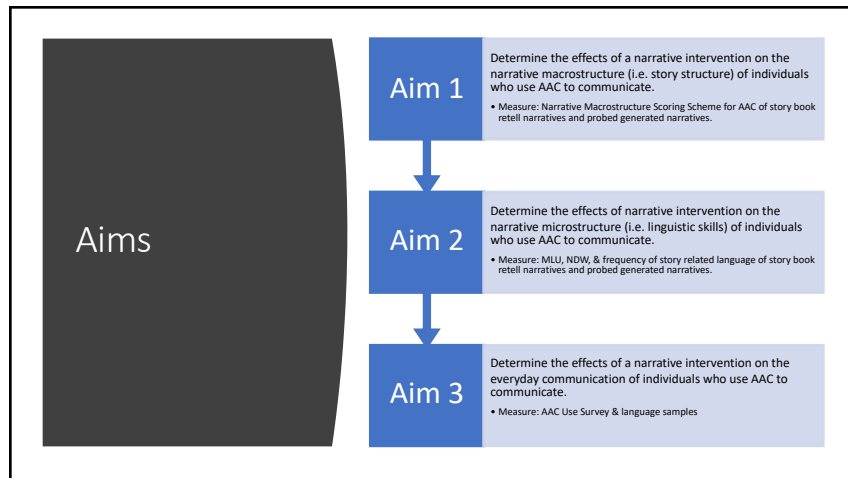
Why Narrative Intervention for AAC

- The majority of AAC interventions have focused on early communication skills such as requesting (Light & McNaughton, 2015; Snell et al., 2010).
- Limited communication contexts limits participation in academic and social contexts.
- 90% of adults with CCN are functionally illiterate (Foley & Wolter, 2010). There is evidence that narrative skills are correlated with reading comprehension skills (Catts et al., 2002).
- Narrative skills is a strong predictor of future language impairment and academic difficulties in preschoolers with language delays (Bishop & Edmundson, 1987).
- Narratives are included in the Common Core Curriculum starting in Kindergarten.




Why Narrative Intervention for AAC

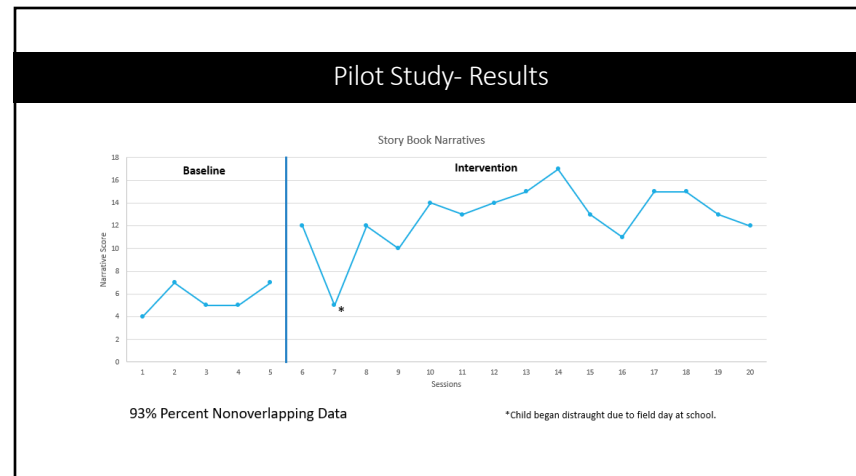
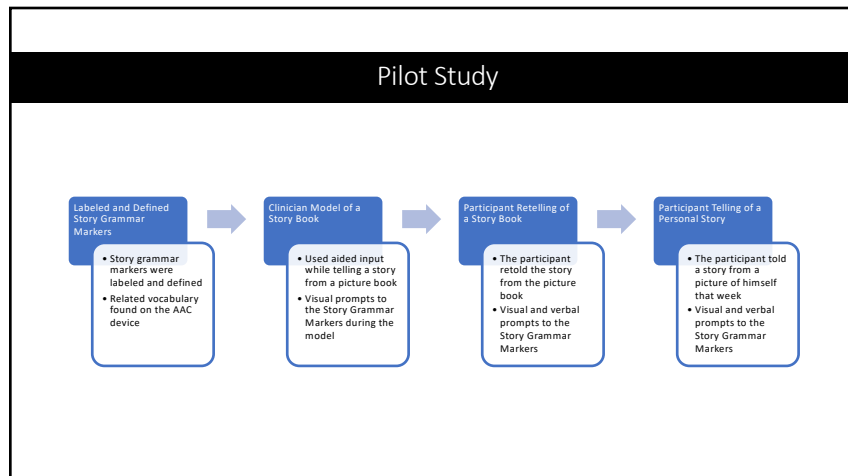




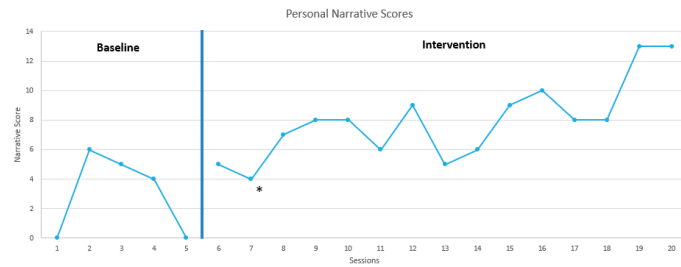
Pilot Study

- Participant
 - 11;1
 - Childhood Apraxia of Speech, ADHD
 - Communication Methods: LAMP words for life, sign language, word approximations
- AB design





Pilot Study-Results



Dissertation Study

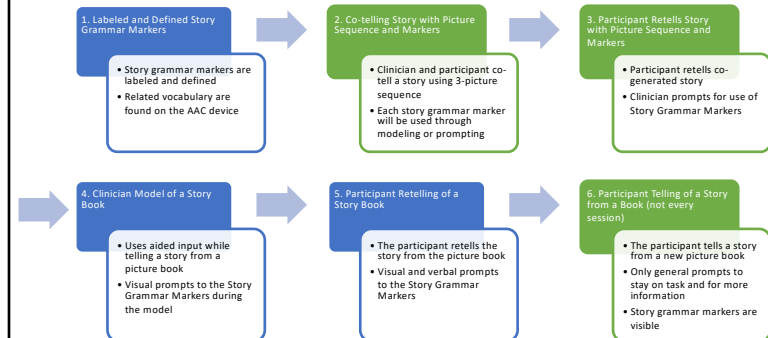
- Multiple baseline across participants design
- 4 participants
 - 6-14 years old
 - AAC device for at least 2 years
 - Independently combines 2 words
 - Can request and comment



Baseline Sessions




Intervention Modifications






1. Labeling and Defining Story Grammar Markers

- Story grammar markers are defined.
 - "The kick off is an action that causes something else to happen in the story. It can cause another action or can cause the characters to have a feeling"
- Related vocabulary for the markers is found on the child's device.
 - "You can find characters under the *people* or *animal* buttons"




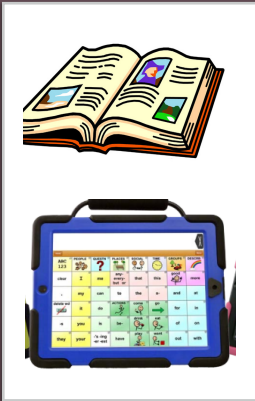
2. Co-telling Story with Picture Sequence and Markers

- Used to teach more complex story grammar markers.
 - Kick off, plan, resolution
- Clinician and participant will tell the story together
- The clinician teaches the participant how to use the story grammar markers.
- "This **man starts a fire to cook**. That is the kick off of our story (*points to kick off icon*).
- What does the man do next? (*points to action icon*)
- How does the man feel now? (*points to feeling icon*)" (If the child does not answer the clinician will open the feeling pages and point out a couple options "Does the man feel **sad**, **mad** or **happy**?"



3. Participant Retells Story with Picture Sequence and Markers

- Participant retells co-generated story
- Clinician prompts for use of Story Grammar Markers
 - "Don't forget to tie the story up with the resolution" (*points to resolution icon*)
 - "Remember to include a feeling at the end of the story"

4. Clinician Model of a Story Book

- Uses aided input while telling a story from a picture book
 - 50% of the words in the clinician's story will be indicated on the device
- Visual prompts to the Story Grammar Markers during the model
- "There **was** a **boy and a girl** (*points to character icon*) **walking** in the **park** (*points to setting icon*)."



5. Participant Retelling of a Story Book

- The participant retells the story from the picture book
- Visual and verbal prompts to the Story Grammar Markers
- “Good job telling me about the characters (*points to character icon*) before we turn the page remember to include where the story happens (*points to setting icon and the places icon on the AAC device*)”.



6. Participant Telling of a Story from a Book (not every session)

- The participant tells a story from a new picture book
- Only general prompts to stay on task and for more information
- Story grammar markers are visible

Measurement

Aim 1: Narrative Macrostructure

- Narrative Macrostructure Scoring Scheme-AAC
 - Adaptation of Index of Narrative Complexity
 - Likert type scale, 0-3 point scale
 - Total narrative score will be used to assess growth

Narrative Macrostructure Aspect Scored on a 0-3 scale	Definition
Character	References a subject in the story.
Setting	References a location or time of day in the story.
Initiating event	An incident that triggers a response from a character in the story.
Internal response	Reference to the character's emotion or state of mind. This can also include a character's thoughts.
Plan	Uses a cognitive verb that shows a character is thinking about the initiating event and plans to act.
Actions/attempts	The character performs an action.
Complication	An event that stops the character from following through with the plan or action.
Consequence	The result of the action that does or doesn't resolve the problem.
Conclusion	The final event that wraps-up the story and talks about the character's feelings.

Measurement

Aim 2: Narrative Microstructure

- Mean Length of Utterance
- Number of Different Words
- Frequency count of story related vocabulary
 - Verbs, feeling words, linking words

Aim 3: Ecological Validity

- MLU and NDW of language samples conducted in the home
- AAC Use Survey
 - Given to the participants' parents before and after the study

Analysis

- Visual Analysis
 - Level
 - Trend
 - Variability
 - Immediacy of Effect
 - Overlap
 - Consistency within phase
- Tau-U

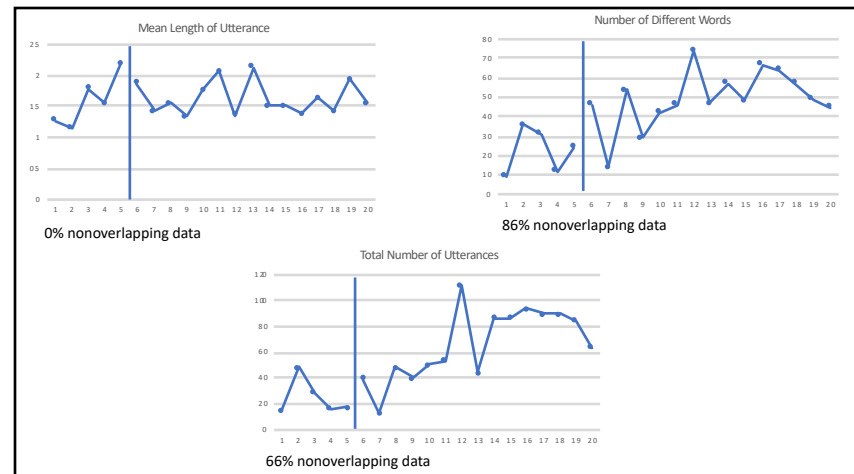
Research Challenges

- Language Measures
- Scripting the intervention
- Recruiting participants



Language Measures

- Currently proposing using MLU, NDW and story related vocabulary (verbs, feelings, linking words)
- Other considerations
 - Total number of utterances
 - Number of pages accessed
- Segmenting utterances
- AAC Use Questions for Parents



Scripting Intervention

- Number of words to target during the model
 - Model all words or focus on the words that relate to story grammar elements
- Following script versus individualizing it to the client
 - Vocabulary differences on devices
 - Need to base feedback on participant's ability and responses

Recruitment

- Recruiting participants that can complete the intervention tasks
- Ensuring that participants have necessary preliminary skills of commenting and combining 2 words
- Restrictions on vocabulary sets that are permitted