



Narrative Language Intervention: Promoting Oral Language Development

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Topics

- What are Narratives
- Framework for Teaching Narrative Language
- Summary of Evidence

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What is Narration?

- Orderly accounts of real or imagined events
- Coherent sequences of utterances with a common theme
 - Characters, actions, complications, resolutions
 - Temporal order
 - Causal relationships
 - Character's responses, reactions, feelings, thoughts

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The Language of Narration

- Macrostructure
 - Episode Structure (Story Grammar Propositions)
- Microstructure
 - Elaborated noun phrases & conjunctions
 - Mental and linguistic verbs
 - Adverbs

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Macrostructure (Wonder Woman)

One day, six mean and ugly robbers entered the Chicago Bank & Trust. They demanded money and started shooting their guns in the air. Wonder Woman happened to be driving by when she heard shots coming from the bank. She felt sorry for the people who were inside. She decided to change into her Wonder Woman suit and get over there. She climbed up the back wall of the bank and went into an upstairs window. Once she got into the bank, the robbers started shooting at her.

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She used her magic arm bracelets to knock away the robbers' bullets. Then she used her magic lasso to round them up until the police arrived. The police came and took the robbers to jail. The bank employees were grateful to Wonder Woman for saving their lives. Once again, Wonder Woman saved the day and showed that crime does not pay.

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Microstructure - Literate Language

- Elaborated Noun Phrases
 - ...six mean and ugly robbers entered...
- Conjunctions (and, but, then)
- Mental and linguistic verbs
 - knew, felt like, thought, decided to, said...
- Adverbs
 - When, after, because, if, since,

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Children with Language Impairments

- Narrative Comprehension Difficulties
 - Critical elements and gist understanding
 - Drawing inferences

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Children with Language Impairments

- Macrostructure Level
 - Greater variability across stories
 - Incomplete references to characters and story contexts
 - Fewer story grammar propositions
 - Lower holistic scores

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Children with Language Impairments

- Microstructure Difficulties
 - Vocabulary
 - Complex sentences
 - Grammaticality
 - Reference
 - Conjunctions

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Language Intervention

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A Comparison of Intervention Approaches for Improving Language and Narrative Abilities in Low income Children with Language Impairments

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Purpose

Do low-income school-age children with language impairments perform better on measures of language and narration after participating in a clinician designed language intervention program (literacy based language intervention) or a set of commercially marketed products designed to improve language (No glamour - Linguisystems)?

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Participants

- Primary grade children (1st & 2nd grades)
- 18 children with language impairments were randomly assigned to 1 of 2 treatment groups
- 9 children with language impairments served as controls and did not receive either treatment

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Language Based Literacy Intervention (LBLI)

- 9 children
- Mean age
 - 7;6
- 6 male, 3 female

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No Glamour published by Linguisystems (NGL)

- 9 children
- Mean age
 - 7;8
- 4 male, 5 female

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Control

- 9 children
- Mean age
 - 7;8
- 5 male, 4 female

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Procedures

- Children who were assigned to intervention received treatment for 1 hour, 3 times per week in groups of 3, for a total of 6 weeks.
- Intervention was provided by a certified speech language pathologist or graduate students in speech language pathology under the direct supervision of a certified speech language pathologist

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- Pre- and post- assessments were conducted by evaluators blind to group assignment
- Measures included subtests of the *Clinical Evaluation of Language Fundamentals (CELF-4)* and the *Test of Narrative Language (TNL)*.

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Intervention Procedures

Literacy Based Language Intervention (LBLI)

- Structured around children's literature
- Incorporated oral and written contexts
 - Intervention Targets:
 - general and story vocabulary
 - grammatical morphology & syntax
 - phonological awareness
 - narration

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Targets embedded in themes & authentic literacy contexts

- Weeks 1 and 2: activities centered on animals who disliked bedtime
 - *Goodnight Dinosaur & Bedtime for Zachary*
- Weeks 3, 4, 5: activities centered on animals who liked to party
 - *Dinosaur Stomp, If you Give a Pig a Party*
- Week 6: activities designed to facilitate comparisons between books on several aspects

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- Comparisons between books on the basis of:
 - Character
 - Physical attributes, personalities
 - Actions
 - What actions were taken by characters?
 - What were the results of the actions?
 - Beginning, middle, endings
 - Similarities and differences
 - Theme
 - Bedtime
 - Parties

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Session activities

- Pre-story preparation
- Supported story generation, co-telling, re-telling, reading stories, story discussion
- Word review (vocab), syntax/grammar
- Phonological awareness
- Story grammar element identification
- Parallel stories (oral & written)

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Parallel story - Dinosaur Stomp

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No Glamour NGL

- Commercially packaged games and situational question cards designed to improve social language, vocabulary and general language skills (LinguiSystems, 2005).

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NGL

- Children played each game or answered questions read from each of 3 card sets for a total of 15 minutes for each game or set.
- Care was taken to ensure each child had an equal number of turns.

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No-glamour Grammar

- The cards are divided into nouns/pronouns, verbs, modifiers, and sentences (subjects, predicates, conjunctions, negatives, and questions).

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Social situations cards

- The cards offer realistic illustrations of social situations grouped into the following categories: in school, eating, emotions, self-control, getting along, conversations, being responsible, solving problems, and role playing.

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No glamour vocabulary

- The card sets contain the following categories: functions, categories, attributes, associations, comparisons, compound words, synonyms, antonyms, multiple-meaning words, and absurdities.

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No-glamour language cards

- Card sets include sections for asking & answering questions, exclusion, negatives, listening, semantics, grammar, making inferences, comparing & contrasting, paraphrasing, retelling, social communication and problem solving.

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Results

- ANCOVA
 - Dependent Variable - TNL Index Score
 - Covariate - TNL pre-test score
 - Group main effect
 - $[F(2, 26) = 3.117, p = .06]$
- Effect Size
 - LBLI: 1.18
 - NGL: 0.46

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- ANCOVA
 - Dependent Variable - TNL Narrative Comprehension Score
 - Covariate - TNL pre-test score
 - Group main effect
 - $[F(2, 26) = 3.441, p = .049]$
- Effect Size
 - LBLI: 1.24
 - NGL: 0.53

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- ANCOVA
 - Dependent Variable - TNL Oral Narration Score
 - Covariate - TNL pre-test score
 - Group main effect
 - $[F(2, 26) = .71, p = .50]$
- Effect Size
 - LBLI: .53
 - NGL: 0.09

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- ANCOVA
 - Dependent Variable - CELF-4 formulated sentences (FS)
 - Covariate - CELF-4 FS pre-test score
 - Group main effect
 - $[F(2, 26) = .3.97, p = .03]$
- Effect Size
 - LBLI: 1.61
 - NGL: .62

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- ANCOVA
 - Dependent Variable - CELF-4 recalling sentences (RS)
 - Covariate - CELF-4 RS pre-test score
 - Group main effect
 - $[F(2, 26) = 11.7, p = .0001]$
- Effect Size
 - LBLI: 1.94
 - NGL: .97

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Clinical Implications

- **LinguiSystems NGL** group
 - Statistically better than the controls on language measures
 - Moderate effect sizes for most measures
 - 95% confidence interval of the effects was not reliable

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Clinical Implications

- Clinician designed literacy based language intervention was extremely beneficial.
- Children demonstrated large changes on the *CELF-4* subtests after just six weeks of language therapy.

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Compliance

- LBLI - high
- NGL - medium - high depending on the child

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Clinical implications

- Intervention was provided in groups of 3.
- Group intervention was beneficial.

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The Big Story

- LBLI resulted in large gains in narrative comprehension and language skills that were 40 - 60% higher than gains for NGL.

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- Gains in narrative production were not reliable.
- More **explicit instruction** in story structure may be required to affect significant changes in narrative skills.

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FLIP-N (Gillam & Gillam, 2007)

- “FLIP for narratives” was designed to improve functional language skills in the context of narration.
- Children learn and practice new concepts, words, sentence structures, and story grammar elements.
- The program relies on repetition, therapeutic discourse, and graphic organizers.

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Therapeutic Discourse

- Make goals explicit
- Clinician models/demonstrations
- Questions - various levels of complexity
- Contingent facilitation/recasts
- Visual/Graphic organizers
- Multiple opportunities to respond and repeat
 - (Gillam, et al, 2008; Cable, 2007; Merritt, Culatta, & Trostle, 1998)

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Graphic Organizers


- Use of icons to represent story grammar elements

Initiating Event Attempt Consequence

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Phase I: Teaching story grammar elements

Icon introduction



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3 Hungry Mice

Teach icons in the context of stories

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Comprehension Checks

- Ask questions targeting story grammar elements after each story
- Use icons to aid memory

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Story "co-telling"

- Children use the icons to help them "re-tell" the story
- Clinician verbally assists the child in telling the story
- Pictures in the book are used to assist the child in telling the story

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Story element Bingo

- Icons in Bingo card used to assist children in
 - telling stories
 - monitoring the inclusion of story grammar elements in stories told by each other

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- Parallel story with & without icons
 - Children tell their own stories
- Parallel story "re-telling" with & without icons
 - Children tell each other's stories

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Phase II. Focus: Practice, Elaboration & Refinement of Story Grammar Elements

- Assist students in "elaborating" on the story grammar elements they have learned
 - Character names, personality attributes
 - Specific setting elements, city names
 - Elaborated actions
 - More sophisticated vocabulary to describe character feelings

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In phase I

- Three mice
- Hungry
- forest

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- On mushroom
- Lazy
- Dreaming
- June
- Gentle & kind
- Yellowstone forest
- Beautiful day

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- Co-telling
 - With & without Bingo cards
- Parallel stories
 - With & without icons (story boards)

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Comprehension checks

- More specific questions about:
 - characters, setting, initiating events
 - causes & consequences of plans & actions
 - inferences
 - internal responses of characters

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Phase III: Becoming Independent Story Tellers

Develop stories from single scenes

- Generating stories from single scenes with without icons (story boards)
 - Each child develops his or her own story
 - Children tell each other's stories
- Use Bingo cards to encourage students to "monitor" each other for SG elements

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Evidence for FLIP-N

- Gillam, S., Gillam, R., Petersen, D., & Bingham, C. (in preparation)

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Purpose of the study

- Do school-age children with language impairments perform better on measures of language and narration after participating in a narrative based language intervention?
- Does socialization with peers affect language and narration skills?

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Participants

- 16 children with LI ages 5 - 9 were randomly assigned to one of 2 groups.
- Socialization first
- Concurrent Socialization

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Participants

- Socialization first - engaged in free play together for 90 minutes per day, four days each week, for four weeks (the control period).
- After the free play period, these children received our narrative intervention for four weeks (the intervention period).

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- Concurrent socialization - stayed at home and did not receive any services for four weeks (the control period).
- After the control period, these children received our narrative intervention and the free play condition concurrently, four days each week for four weeks (the intervention period).

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- Children were tested with *Test of Narrative Language* (Gillam & Pearson, 2005).
 - immediately after random assignment (Pretest)
 - after the month of socialization or individual play at home (Midtest)
 - after intervention (Posttest)

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- We hypothesized that staying at home or engaging in free play with other children would serve as within-child control conditions.

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Results

- A Group (2) x Time (3) Repeated Measures ANOVA yielded a significant main effect for Time $F(2,28) = 40.435, p < .001, \eta^2 = .743$.

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- Cohen's d effect sizes for the intervention periods vs. the control periods were unusually large.
- The standardized effect size for the socialization first group was 4.61.
- The standardized effect size for the socialization concurrent group was 3.545.

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- These results provide strong initial support for the efficacy of our intervention procedure.
- They also suggest that free play without intervention is an effective control condition.

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Multiple Baseline Experiment with Children who demonstrated severe communication impairments

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Purpose

- The purpose of this study was to investigate the effect of FLIP-N for improving oral narration for three children with cerebral palsy with co-morbid receptive and expressive language impairment

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Participants

- Three children with developmental disabilities served as participants: Sage (age 6;3), Sarah (age 6;5) and Tim (age 8;1)
- Selection criteria included the following, and was determined through a battery of assessments:
 - a developmental disability
 - moderate receptive and expressive language impairment
 - intellectual abilities within the average range

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Experimental Design

- Multiple baseline across participants
- Multiple baseline across behaviors
- Staggered baselines with assessment probes
- Ten 90 minute individual sessions of literate narrative intervention with assessment probes following each session

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Assessment Probes

- During each assessment probe across all conditions participants were shown a picture randomly selected from a group of 20 pictures.
- The experimenter said " I want you to look at this picture and make up the best story that you can."
- The child's narrative was digitally recorded and later transcribed.

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**Dependent Variables:
Narrative Macrostructure**

- Character
- Setting
- Initiating Event
- Internal Response
- Plan
- Action/attempt
- Consequence and Formulaic Utterances

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**Dependent Variables:
Narrative Microstructure**

- Causal and temporal words (because, then)
- Participants did not demonstrate use of these words at the time of baseline probes.

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**Procedure: Literate
Narrative Intervention**

10 steps: materials were systematically varied to provide appropriate scaffolding

- Modeling macrostructure and microstructure elements from story books, pictures, icons and drawings(similar to FLIP-N)
- Comprehension questions related to story grammar
- Repeated narrative retellings
- Withdrawal of support gradually (to independent story telling)

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Procedures

- Macrostructure - All story grammar elements introduced at the outset of intervention sessions, which occurred after staggered baseline phases.
- Microstructure
 - Causal Relations were introduced at the outset of intervention sessions (targeted at all 10 sessions)
 - Temporal Adverbial Subordinate Clauses were introduced at the 7th intervention sessions for each participant (targeted during last 3 sessions)

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Results

Effect Size Calculations

- Macrostructure:
 - Sage 50% non-overlapping data points
 - Sarah 70% non-overlapping data points
 - Tim 70% non-overlapping data points

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Results

Effect Size Calculations

- Microstructure - Causality:
 - Sage 60% non-overlapping data points
 - Sarah 70% non-overlapping data points
 - Tim 40% non-overlapping data points

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Conclusions

- All participants improved microstructure and macrostructure elements of their oral narratives once the intervention was implemented.
- Results were obtained with remarkably few intervention sessions.

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