A Parent-Implemented Shared Storybook Reading Intervention for Preschoolers with Autism Spectrum Disorders

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Presentation Outline

• Background
  – Barriers for children with ASDs
  – Components of shared storybook reading interventions

• Current Study
  – Research Questions
  – Method
  – Results
  – Discussion

Barriers to Literacy

• Children with disabilities have fewer early literacy experiences (Van Kleeck, 1997) like shared storybook reading

• Barriers include:
  – Nature of literacy
  – Caregiver perceptions and practices
Shared Storybook Reading Interventions

- Adults learn scaffolding strategies to support language and social engagement (Bellon, Ogletree & Harn, 2000; Crain-Thorenson & Dale, 1999; Cowe et al., 2000; Whitehurst et al., 1994)
- Results include increases in:
  - Adult strategy use (Crain-Thorenson & Dale, 1999; Crowe et al., 2000; Whitehurst et al., 1994)
  - Parent-child social engagement and participation (Crain-Thorenson et al., 1999; Crowe et al., 2000)
  - Child language complexity (Crain-Thorenson & Dale, 1999; Crowe et al., 2000)
  - Child vocabulary (Arnold et al., 1994; Dale et al., 1996; Whitehurst et al., 1994)

Research Questions

1. Will the intervention increase parent’s use of scaffolding strategies?
   - Frequency of scaffolding strategy use
2. What are the effects of the intervention on children’s expressive language?
   - Mean Length of Utterance-Morpheme (MLU-M)
   - Total Number of Different Words (TNDW)
3. What are the effects of the intervention on parent-child social engagement?
   - Duration of shared storybook reading

Research Design

- Single-subject multiple baseline design across five parent-child dyads
- Baseline: 3-12 sessions
  - 5-minute data probes
- Intervention: 12 sessions
  - 5-minute data probes
  - Parent-training
- Follow-up: 3 sessions
  - 5-minute data probes
Participants

- Parents:
  - 5 mothers
  - Age range: 30-42 years old
  - Education: some college to master’s degree
  - Employment:
    - 2 worked outside the home
    - 3 were stay-at-home moms

- Children:
  - 1 female, 4 male
  - Age range: 38-64 months
  - Diagnosis:
    - PDD-NOS (2)
    - Autism (3)

Parent-Training

- Direct instruction of 8 scaffolding strategies
- Parents focused on increasing 4 individualized strategies (target strategies) used least during baseline
- Videotaped models and examples
- Self-evaluation of strategy use
- Practice with the researcher
- Practice with the child given direct support and feedback
- Debrief and review
- Home reading log

Scaffolding Strategies

1. Praise and Encouragement Statements
2. Pauses
3. Attention-getters (e.g., “look”)  
4. Achievable Models
5. Recasts
6. Cloze Statements (e.g., “There’s a blue ___.”)
7. WH questions
8. Vocabulary definitions (e.g., “A penguin is a kind of bird.”)
Data Analysis

- Transcribed into Systematic Analysis of Language Transcripts (SALT)
- Strategies coded by blind coders
  - Cohen’s kappa (1988) range: .663 (substantial) to .999 (almost perfect)
- Data graphed:
  - Visual analysis of level and trend
  - Percentage of Non-overlapping Data Points (PND) (Scruggs, Mastropieri, & Castro, 1987; Scruggs & Mastropieri, 1998)
    - Above 90=Very effective
    - 70 to 90=Effective
    - 50 to 70=Questionable
    - Below 50=Ineffective

Parent Results

- All 5 parents increased either:
  - Target Strategy Use (4 individualized scaffolding strategies)
    - 1 parent
  - Total Strategy Use (all 8 scaffolding strategies)
    - 2 parents
  - Target AND Total Strategy Use
    - 2 parents

Target Strategy Use

- PND: Above 90=Very effective
  - 70 to 90=Effective
  - 50 to 70=Questionable
  - Below 50=Ineffective
Child Results

- 3 children increased either:
  - MLU-M
    - 1 child
  - TNDW
    - 1 child
  - Both MLU-M and TNDW
    - 1 child
- 2 children did not show an increase in either measure

Mean Length of Utterance-Morpheme
Parent-Child Results

• All 5 parent-child dyads increased the duration of shared storybook reading
• Increases ranged from 20 seconds to over 3 minutes

Parent Satisfaction

- Pre/Post Rating of Shared Storybook Reading Views and Practices
  - 10 statements
  - 9-point Likert Scale
  - One statement showed a significant increase from pre-intervention to post-intervention (p=0.042, Wilcoxon Ranked Signs Test)
    - “I know how to keep my child engaged during shared storybook reading”
  - Other statements were rated highly before and after

- Post Parent Satisfaction Rating
  - 5 statements
  - 9-point Likert Scale
  - Ratings fell between 7 (agree) and 9 (strongly agree) for all statements
Social Validity

- Blind Raters (11 SLP Graduate Students)
- Rating of Parent and Child Social Interaction During Shared Storybook Reading
  - Pre/Post video clips randomly selected
  - 11 statements, 9-point Likert Scale
  - All of the ratings were significantly different for at least 10 of the 11 questions (p<.05, Wilcoxon Ranked Signs Test)

- "Best" Video Clip Selection
  - Pre/Post video clips randomly selected
  - "Best" = child most socially engaged
  - All students chose the "post" clip as the best example of child social engagement

Discussion

- Parent Outcomes
  - All parents increased frequency of strategy use
- Child Outcomes
  - Three children increased MLU-M and/or TNDW
- Parent-Child Outcomes
  - Increases in duration occurred in all dyads

Discussion Continued

- Parents were satisfied with the intervention
- Parents felt the intervention supported their knowledge of how to keep their child engaged during shared storybook reading.

- Social Validity:
  - Blind Raters observed differences in social engagement and participation before and after the intervention
Limitations

• Small sample size
• Limitations of single-subject design
• Participant selection procedures
• Sensitivity of child measures

Implications

• Supports the potential for a parent-implemented shared storybook reading intervention to increase:
  — Literacy opportunity for children with ASDs
  — Social engagement opportunity for children with ASDs

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• Families

Questions