Evidence-Based Early Language Intervention: Caregiver Verbal Responsivity Training

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Early Language Intervention

- We know that it is effective
  - Evidence for group and individual contexts led by a therapist
  - Evidence across a variety of communication and language goals
  - Evidence for the effectiveness of varying techniques (e.g., milieu, focused stimulation, interactive modeling, etc)
  - Emerging evidence for effectiveness of parent-focused interventions
- The comparative efficacy evidence base much weaker
  - How do we know what approach to select?
  - Are some more effective than others?

Components of Effective Early Intervention Services

- Design and delivery of services must be family centered and strengths-based
- Services must be provided within natural environments
- Programs should be inclusive (available to children who are developing typically, those who are at developmental risk, and those who demonstrate developmental delays)
- The quality of relationship is central to learning at all levels (programs must recognize the importance of the relationship between provider and family, family and child, and provider and child)
- Developmentally appropriate intervention strategies must be employed.

Experimental Procedures

- Children were randomly assigned to one of three intervention conditions:
  - Caregiver responsivity training (caregiver trained to provide intervention in natural activities and routines)
  - Toddler group led by SLP (SLP provided intervention in the context of natural activities and routines in a group setting)
  - Toddler group + caregiver responsivity training
- All children received a total of 240 minutes of intervention time per week for a total of 16 weeks
  - Initial training lexicon of 10 words were individually selected for each child in accord with their interests and their phonological repertoire, when children met criteria for a word a new word was added to keep the intervention targets constantly at 10 words.

Caregiver Verbal Responsivity Training (CVRT)

- Caregivers were trained to facilitate their children’s early language skills
- Home visits (2x monthly)
- Parent training in groups (2x monthly)
- Activities implemented by parent in home – 180 min week
- Total Weekly Intervention time = 240 minutes, 180 in parent-implemented activities, 60 minutes parent training either in home or in a group
- Caregivers tracked their children’s production of target words on a weekly basis and were asked to model each word at least 20 times during the week.

Direct Lexical Training in Toddler Groups (DLT)

- Children’s early language skills are facilitated by an SLP in a group setting through direct lexical intervention relying upon interactive modeling and contextually embedded “requests” for language targets
- Center based (2x weekly – 2 hr. session each time)
- Total Weekly Intervention time = 240 minutes
- Children were provided with 10 models for each target word for each session for a total of 20 models per week per word
- Children’s production of target words was tracked each week and parent were asked to track their child’s target word productions at home as well.
CVRT + DLT (Combination Intervention)

- Center-based (1x weekly group – 2 hours)
- Parent Training in groups (3 x monthly)
- Parent Training at Home based (1 x monthly)
- Activities implemented by parent in home = 60 min weekly
- Total Weekly Intervention Time = 240 minutes
- Ten models per word were provided during each weekly group session and parents were asked to track their child’s target word productions and provide at least 10 models across the week for each target word

Criteria for Acquisition of Target Words

Caregiver Report
- Parents were given a list of their child’s target words to monitor use over the following 7 day time period
- Parents checked the frequency of word use and describe the activity/setting in which their children used the words
- A word was considered acquired when used the word was used at least 3 times in two different activities or routines

Treatment Data
- Children’s word use was noted during each playgroup session
- Words were regarded as acquired when used spontaneously in at least two different contexts during two of four successive playgroup sessions

Participant Characteristics

<table>
<thead>
<tr>
<th>Measure</th>
<th>DLT (n=29)</th>
<th>DLT+CVRT (n=26)</th>
<th>CVRT (n=27)</th>
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<tbody>
<tr>
<td>Age (mo)</td>
<td>26.20 (3.3.5)</td>
<td>24.23 (4.14)</td>
<td>24.59 (3.83)</td>
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<tr>
<td>Words at Baseline</td>
<td>11.14 (9.57)</td>
<td>14.19 (11.23)</td>
<td>13.46 (12.67)</td>
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<tr>
<td>Reynell-Receptive</td>
<td>73.79 (15.53)</td>
<td>72.91 (19.21)</td>
<td>77.85 (17.50)</td>
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<td>Reynell-Expressive</td>
<td>64.62 (4.88)</td>
<td>64.34 (15.35)</td>
<td>64.62 (3.47)</td>
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<tr>
<td>BDI - Cognitive</td>
<td>80.86 (17.20)</td>
<td>81.73 (18.20)</td>
<td>83.33 (16.71)</td>
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</table>

All formal test data expressed as a Standard Score, SD are in parentheses

Target Words Learned in each Condition

Average Weeks to Criteria Across Conditions

Target Words Acquired x Condition

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<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
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<tr>
<td>DLT</td>
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<td>18.34</td>
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<tr>
<td>CVRT</td>
<td>8.33</td>
<td>9.64</td>
<td>0-41</td>
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Average Weeks to Criterion x Condition

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<th>M</th>
<th>SD</th>
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<tbody>
<tr>
<td>DLT</td>
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<td>3.19</td>
<td>0-14.30</td>
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<tr>
<td>DLT + CVRT</td>
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<td>1.57</td>
<td>1.82-8.00</td>
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<tr>
<td>CVRT</td>
<td>6.51</td>
<td>2.66</td>
<td>2-13.00</td>
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</tbody>
</table>

Conclusions

- Children learned in all conditions, but acquired new words most rapidly (twice the rate) in the condition that included a combination of parent training and SLP-led group intervention
- The broadened contextual exposure was likely responsible for the differential learning rates
- Early language interventions will maximize effectiveness if they include a focus on natural activities and routines within the home as well as a group setting.

Caregiver Training Program Overview

- Component One: Sensitivity Training
  - Facilitate identification of communication behavior and identification of opportunities for communication
- Component Two: Contingency Training
  - Increase timely and contextually-related responses to targeted child behavior
- Component Three: Consistency Training
  - Self-monitoring; use of cues and prompts for elicitation of more complex behavior

Agenda for group and individual meetings

- Caregiver Verbal Responsivity Training Agenda: Example handout.doc
  - Play Group and Parent Classes
  - Sensitivity: Tuning In To Opportunities for Language Learning
    - Session 1 Group meeting: Overview and Introduction: Teaching Your Child Words
    - Session 2 Group meeting: Opportunities for Teaching Words
    - Session 3 Group meeting: Introduction to Sensitivity Training and Language Skills
    - Session 4 Group meeting: Tuning In To Opportunities for Language Learning
  - Contingency: Responding to Children's Communicative Behavior
    - Session 5 Group meeting: Caregiver's Talk to Children
    - Session 6 Group meeting: Strategies for Encouraging Words during Play
    - Session 7 Group meeting: Imitation, Interpretation and Expansion
    - Session 8 Group meeting: Responding to Our Child's Communications
    - Session 9 Group meeting: Options for Responding
    - Session 10 Group meeting: Strategies to Further Enhance Children's Language Skills
    - Session 11 Group meeting: Identifying More Complex Communication and Language Behavior
    - Session 12 Individual meetings: Review Progress and Plan Future Goals

Structure of parent meetings

- About 4-6 caregivers per group
- Began by reviewing target word logs for each child and select new words if needed
- Introduced topic for session with parent handout
- Viewed videotaped segments illustrating the strategies targeted that session
- Facilitated discussion of strategies
- Wrote intervention plan to be implemented during the following week

Target Word Logs

- Criteria for selecting target words
  - Start with words that are names for objects that the child likes
  - Pick words that occur often at home
  - Start with words that contain sounds and syllable shapes that the child can produce
  - As the child learns a word, pick a new word to replace the one that has been learned

- Example "Possible Target Words"
- Target word log used by parents to monitor acquisition of words
Development of Interaction Plans

- Identify routine
- Determine steps in the routine
- Determine opportunities for communication relative to each of the identified steps
- Specify response options with respect to identified opportunities

Example Interaction Plan

**INTERACTION PLAN**

**Child:** Tierra

**Partner:** Dad

**Activity:** Washing Dishes

**Setting:** Kitchen

Target words: water, soap, bubbles, cup, pan, dad, chair, in, dog, wash

**Steps of Routine**

1. Dad and child are ready to wash dishes
2. Dad helps Tierra put soap and water in the sink
3. Tierra begins to wash the dishes
4. Dad helps Tierra wash the dishes. Dishes are washed, rinsed and put in dish rack

**Props Needed**

- Dishwashing items
- Items representing target words:
  - Water
  - Soap
  - Bubbles
  - Cup
  - Pan
  - Dad
  - Chair

**Opportunities for target words and partner response options**

- While preparing the sink, wait for Tierra to indicate the need for a chair, label and help with the chair.
- Turn the water on, label water, in the sink. Put the soap in. Label and talk about the soap going in the sink. Label and describe bubbles appearing. Use the target words in phrases like: "Dad put soap in", "Water off", "Lots of bubbles".
- Place the items to be washed near the sink. Wait for Tierra to indicate or say which item she wants to wash. Give her choices like: "Pan or cup". Talk about washing each with soap and bubbles in the water.
- Wash items. Label each item. Discuss rinsing in more water. Wash in the water with bubbles. Comment on "no bubbles" in the rinse water. Make other comments like: "Cup and pan are all clean", "We are done with the water", "Bye bye bubbles", "Tierra is all done washing the cup and pan", "Dad and Tierra are all done."
Analysis of Communication Opportunities

Contingency: Responding to children's communications
- Goal is to increase caregiver responses to child's communications
- Focus is on how the language that the caregiver uses can promote the child's communication
- Promote caregiver's use of enhancing responses
- Decrease use of limiting responses

Enhancing Caregiver Responses
- Comply with the perceived or intended meaning, when appropriate, given the goal of the activity (e.g., giving a child a desired item, focusing attention on a novel event)
- Acknowledge meaning when compliance is not possible
- Request clarification when the meaning is unknown, and cannot be inferred or guessed from the context
- Example of enhancing responses

Limiting Caregiver Responses
- Leading Response: Caregiver does not follow the child's focus of attention
  - Redirect to previous object or activity
  - Introduces a new object or activity
- Non-Interactive or Unrelated Responses
  - Joint focus is not established and there is no observable change in partner behavior as a function of child behavior
  - Caregiver "watches" child but makes no attempt to interact
  - Caregiver produces a unrelated response (e.g., averts gaze, talks to another adult or child)

Responsivity Analysis
Consistency: Self-monitoring Skills and More Complex Language
- Identification of the "next step" in language learning
- Write new interaction plan targeting more complex language
- Increase caregiver's self-monitoring skills by reviewing videotape made of caregiver while interacting with the child in a previously new activity
- Caregiver asked to identify child's communications and:
  - Evaluate his/her responsivity with reference to that behavior
  - Identify ways in which a natural cue or prompt may be used to elicit more complex behavior
- Plan future support as needed
Considerations for Caregiver Verbal Responsivity Training

- Select specific target behavior
- Include caregivers in data collection
- Focus of strengths
- Use videotapes if possible as tool to identify strengths and capacities with the families
- Be creative in your scheduling

Toddler Group

- Based on developmentally appropriate practices while addressing the interests and needs of individual children.
- The environment, activities, and interactions must be based upon children's individual developmental levels and interests.
- Clinician-directed activities should be limited with the major emphasis placed on opportunities for child-initiated play, active exploration, and making choices.
- Opportunities to practice "old skills" and acquire "new skills" should be provided within the context of children's interactions with materials, activities, peers, and adults.

Toddler Group Curriculum

- Play-based curriculum provides the most effective and enjoyable way for children to learn.
- Children learn best when they are actively engaged, when they are involved in "hands-on" experiences, and when activities are pleasurable to them.

Guidelines for Group-Based Language Intervention

- Follow the child’s lead
- Establish joint attention
- Create opportunities for communication
- Model words and phrases
- Use sound play and mand models to encourage word productions and phonological development

Play Group Curriculum and Activities

- Individualized group instruction is provided to meet overall developmental objectives and specific individual objectives that are identified for each child.
- Typical play group
  - Free play time while children arrive
  - Opening activity that includes songs and fingerplays
  - Exploration of Interest Areas
    - sensory center
    - art exploration
    - housekeeping area
    - book corner
    - motor/tumbling area
    - manipulatives/table top toys
  - Outdoor play
  - Closing songs
Group Dynamics

- Children 18 months to 3 years of age
- Children, who are developing typically, those who are at developmental risk, and those who demonstrate some developmental delays.
- Maximum of 8 toddlers in a group.

Toddlers: Special Considerations I

- Toddlers are discovering their independence and vacillate between needing to be near an adult and independent exploration
  - Encourage parents to participate in play group when possible
  - Provide opportunities for toddlers to act independently
  - Toddlers are free to choose activities and are not required to participate in activities at specific times. Allow alternative outcomes (you can wear shoes to bed)
- Toddlers are learning to share
  - Provide plenty of toys; at least two of each type of toy
  - Use songs, chants, or rhymes to signal turns
  - Create activities that are more successful with interaction (rocking boats; playing catch; painting large murals)

Toddlers: Special Considerations II

- Toddlers are not ready for preschool circles
  - Include opening and closing song times.
  - Sing simple repetitive songs and repeat songs several times
  - Use lots of prompts, puppets and musical instruments
  - Carpet squares, benches and laps can provide boundaries for wandering toddlers
  - Book reading is most successful in small groups when initiated by toddlers
- Toddlers don’t wait and are hard to gather together
  - Be prepared (have all snacks and supplies for activities gathered before play group begins)
  - Bring “the mountain to Mohammed” - start the activity where the children are located
  - Generate interest by beginning the activity yourself

Toddlers: Special Considerations III

- Toddlers need consistent routines
  - Routines provide the structure for language intervention
  - Opportunities for communication are created by varying familiar routines, not by withholding desired objects
- Toddlers explore with energy
  - Provide an area with mats, therapy balls and equipment to climb and tumble
  - Language learning can be facilitated through movement
- Toddlers need special considerations for nurturing social-emotional development
  - Provide support through gentle guidance
  - Be flexible and responsive to individual temperaments
  - Build strong relationships with families through home visits

Sensory Area

- Allows children to explore a variety of sensations.
  - The sensory table is filled on different weeks with water, sand, cornmeal or another substance. A variety of objects are available (funnels, shovels, nesting cups, etc.) to encourage children to experience these different sensations in order to promote development of cognitive and fine motor skills.
Art Area

- Provides children with an opportunity to use paints, crayons, glue, markers and other materials.
- Art activities at this young age are sensory experiences and the "process" rather than the "product" is the focus.

Dramatic Play Area

- Kitchen/baby doll areas allow children to develop important play skills. Children at this age are beginning to engage in imitative play.
- Includes imitation of adult tasks, especially caretaking and housekeeping tasks.
- Develops an understanding of simple functional relationships (e.g., spoon in bowl or mouth, blanket on doll) and symbolic representations (e.g., using blocks as food for the baby).
- Exposure to these play sequences helps children development important cognitive skills so necessary for language acquisition.
**Literacy Area**

- Provides children with an opportunity to explore a variety of books as a solitary or as a shared activity.
- Books are changed based on the theme for that week. Book sharing allows an opportunity to introduce nursery rhymes and encourages children to identify pictures in books.
- Adults read books to children whenever a child shows an interest in a book.

**Manipulative Area**

- Provide opportunities for children to explore and learn about their world in order to develop important cognitive and fine motor skills.
- Activities include play dough, blocks, simple puzzles, nesting toys, pegboards and other toys that develop these skills in young children.
Gross Motor Area

- Provides children with a place to practice newly acquired physical skills.
- Pushing and pulling toys or carrying objects from place to place.
- An area of the classroom is set up with mats, bolsters, large therapy balls etc. to encourage gross motor development.
- Our outdoor playground offers a variety of equipment for expanding movement skills.
For further information, please visit our web site.

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