Efficacy of Teaching Spanish-Speaking Caregivers EMT en Español Naturalistic Language Intervention Strategies

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IASSIDD
August, 2016
Today’s Talk

• Strategies for adapting Enhanced Milieu Teaching (EMT) for low-income Spanish-speaking immigrant families

• Single-case design study to test effectiveness of teaching caregivers EMT en Español strategies
Enhanced Milieu Teaching (EMT)

- Naturalistic communication intervention
  - Responsive Interaction, Modeling Target language, Expansions, Time Delay and Milieu Teaching Prompts (Kaiser & Hampton, 2016)
- Effective when implemented by parents (Roberts & Kaiser, 2013; 2011)
- Effective for young children with language impairment and other developmental disabilities
Why Adapt EMT?

• Create a caregiver-implemented intervention that is culturally acceptable for low-income Spanish-speaking immigrant families

• Need for appropriate linguistic adaptations to match Spanish early language development and grammatical structure
EMT en Español: Adapting the Intervention to be Culturally Appropriate

1. Review of relevant literature
2. Interviews/surveys of Spanish-speaking parents and EI providers
3. Proposed adaptations of intervention strategies and caregiver training method to local families
4. Single-case research with three families to test effectiveness of intervention
What We Learned

Relationship building

Words matter: disability stigma

Including all caregivers

Location for training
EMT Strategies & Adaptations for EMT en Español
EMT Strategies: Setting a Context for Communication

<table>
<thead>
<tr>
<th>Definition/Behaviors</th>
<th>Adaptations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sit on the floor</td>
<td>• Play on the floor or at the table</td>
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<tr>
<td>• Play together with toys</td>
<td>• Playfully use familiar materials/ engage playfully in familiar routines</td>
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<tr>
<td>• Limit questions and directions to the child</td>
<td>• Notice child’s interest</td>
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<tr>
<td>• Follow the child’s lead</td>
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# EMT Strategies: Responsive Interactions

## Definition/Behaviors
- Mirror and map
- Notice and respond to all child communication

## Considerations
- Use family dialect/words for mapping actions
- Ask caregivers for specific input about child communication in every session (typical?)
EMT Strategy:
Model Target Language

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<tr>
<td>• Choose language targets based on child’s current</td>
<td>• Use more verbs, model first</td>
</tr>
<tr>
<td>communication</td>
<td>person singular, first person plural, and third person singular</td>
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<tr>
<td>• Use target level language 50% of the time</td>
<td>inflection of verbs (Jackson-Maldonado, 2012)</td>
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<tr>
<td>• Use slightly above target level language 50% of the time</td>
<td>• Adjust target levels to fit Spanish conventions allow more variability in</td>
</tr>
<tr>
<td></td>
<td>target level</td>
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English Verb Inflections: An Illustration
Spanish Verb Inflections: An Illustration

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Choosing Targets for Early Language Learners

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**EMT Strategies:**
*Expand Activities and Language*

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<tr>
<td>• Expand child’s engagement in play and activities by adding steps or modeling new ideas</td>
<td>• Add words to make phrase grammatically correct</td>
</tr>
<tr>
<td>• Expand child’s language by repeating child communication and adding a word</td>
<td>• Add verbs, nouns, or descriptive words as natural</td>
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EMT Strategies: Time Delay and Prompting

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<tr>
<th>Time Delay</th>
<th>Prompting</th>
<th>Adaptations</th>
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<tbody>
<tr>
<td>Set up request</td>
<td></td>
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<tr>
<td>- Assistance</td>
<td></td>
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<tr>
<td>- Inadequate portions</td>
<td></td>
<td></td>
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<tr>
<td>- Pause in routine</td>
<td></td>
<td></td>
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<tr>
<td>- Choice</td>
<td></td>
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<tr>
<td>• Open question</td>
<td></td>
<td></td>
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<tr>
<td>• Choice question</td>
<td></td>
<td></td>
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<tr>
<td>• Say prompt</td>
<td></td>
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<tr>
<td>• Teach procedures based on specific routines (e.g., give a choice in snack)</td>
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<tr>
<td>• Teach 1 procedure based on child current abilities (e.g., always start with open question)</td>
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Caregiver-Implemented EMT en Español Study

This study was funded by the Peabody Dean’s Office Small Grant Program, Vanderbilt University.
Study Design

• Single-case research design (N= 3 dyads)
• Multiple baseline across behaviors (Gast & Ledford, 2014)
• Replicated across three parent-child dyads
Participants

Mothers
• All mothers were of Mexican origin, immigrated to US
• All families had incomes below the US poverty line
• Spanish was the only or primary language spoken in the home

Children
• Ages 30-42 months
• 1 girl, 2 boys
• Children had cognitive skills within the typical range as assessed by the Lieiter
• Expressive or expressive and receptive language delays in Spanish and English
  • At least 1.3 SD below norm on PLS-5 Spanish/English
Intervention Components

• Parent training: Teach-Model-Coach-Review
• Therapist implemented EMT
• Parent implemented EMT
Parent Training Procedures

• Adaptation of Teach-Model-Coach-Review:
  • Therapist explains the intervention strategies (Teach: 5-15 minutes)
  • Therapist models the intervention strategy with the child (Model: 5-10 minutes)
  • Caregiver practices the strategy with her child with coaching from the therapist (Coach: 12-17 minutes)
  • Therapist reviews the session with the caregiver, summarizes the session, and answers the caregiver’s questions, and reflects on the effects of the intervention on the child (Review: 5 minutes).
Home Sessions

**Baseline**
- 2 times per week over 2-3 weeks
- No modeling, training or coaching
- Mothers were asked to interact with their child as they normally would
- 12 minutes of play/book coded

**Intervention**
- 2 times per week for approximately 12 weeks
- 12 minutes of play/book coded
Example of Intervention Visit

Notice and Respond: Book Sharing
Generalization and Follow-up

• 10 minute sample of parent-child interaction using an untrained set of materials

• Assessed at end of baseline, middle and end of intervention, 3 month followup, 6 month followup
Measures

• Parent use of EMT strategies during baseline, training, generalization, and followup
  • Matched turns and targets
  • Expansions
  • Time Delay and Milieu Teaching Prompts
• Child spontaneous use of new words
• Coded from video recorded and transcribed home sessions
  • Reliability on parent and child behavior assessed for 20% of sessions
  • Fidelity of therapist implementation (Model) and parent training procedures assessed for 20% sessions
  • Reliability on 20% of fidelity assessments
Good things happen when you talk.
Good things happen when you talk.
Number of Different Words (NDW) Used Spontaneous During Intervention

- Participant 1  70 words  (18 intervention sessions; 3.9/session)
- Participant 2  74 words (16 intervention sessions; 4.6/session)
- Participant 3  44 words (incomplete; 10 intervention sessions; 4.4/session)
Next Steps

• Complete generalization and follow up assessments
  • Parent use of EMT with untrained materials at home
  • Child spontaneous use of new words (NDW)

• Complete child post intervention assessments
  • PLS-5
  • Language sample
  • MCDI (parent report of words used and understood)
Next Steps: Social Validation

• Parent evaluation of the acceptability, feasibility and effectiveness of the EMT strategy (both EMT for child and TCMR for parent)
  • Caregiver report of use of strategies at home, of teaching strategies to other family members
• Professionals with experience with similar Spanish-Speaking families
Summary of Results

• Proof of concept demonstration
• Initial adaptation of cultural and linguistic adaptation of EMT
• Effective caregiver training
  • Caregivers learned strategies with brie training
  • Near criterion levels achieved in previous studies
• Modest effects on child vocabulary
  • Cumulative changes in child spontaneous vocabulary
Important Learning

• Challenges in obtaining a valid sample of child language skills
• Time required for therapist-parent relationship building
• Challenges in encouraging the parent to provide candid feedback
• Strategies for involving other caregivers and family members may vary
• Need to simplify explanations and criteria for EMT strategies
Key References


Questions & Discussion

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