Parents as Communication Partners: An Evidence Based Strategy for Improving Parent Support for Language and Communication in Everyday Settings

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Abstract

This paper describes the Teach-Model-Coach-Review approach for teaching parents to implement Enhanced Milieu Teaching (EMT), an evidence-based naturalistic intervention for young children with language impairment. The paper discusses the evidence for parent training as an effective early language intervention approach, the principles and procedures of EMT, the empirical basis of the Teach-Model-Coach-Review approach, and the skills needed to implement this approach.

An Effective Strategy for Teaching Parents to Implement Enhanced Milieu Teaching to Promote Children's Language and Communication in Everyday Settings

Parents are children's first communication partners. Beginning in the first months of life, children engage in communicative interactions with their parents. Communication emerges out of nonverbal turn taking, joint attention to objects and partners, and early emerging gestures and vocalizations. Parents' responses to their children's behavior as if the behavior were intended to communicate not only supports the sharing of early intention but also shapes undifferentiated behavior into culturally and linguistically recognized communication forms. Before children reach their first birthday, parents have become language teachers who model words for objects and actions and provide feedback for child communicative attempts. Although parents vary widely in the extent to which they intentionally model and teach new language forms to their young children, nearly all parents support their children's emergent communication and language skills.

When children are delayed or impaired in the development of language and communication, parents continue to be children's first and perhaps most important communication partners and language teachers. However, parents' strategies for supporting language development that occur naturally and are highly effective for typical children may be less effective and sometimes difficult to use when children have significant language impairment. For example, verbal modeling of new language for a child with hearing impairment may not be sufficient to promote rapid vocabulary learning. Responding with related language may be challenging when the child communicates at a low rate and is often unintelligible, as is the case for many children with developmental disabilities. Systematic training to use effective interaction strategies, modeling language and instruction may be needed to optimize parent

support for emerging language. Often, Speech Language Pathologists (SLPs) are the primary professionals who have the opportunity and the responsibility to provide such parent training. Teaching parents effective approaches to supporting their children's communication provides the child with more opportunities to learn, promotes generalization of language and communication skills taught in other contexts, and may have a positive impact on the child and parents as social communication partners. The long-term effects of parent training may be more enduring than any short-term intervention provided by SLPs or other interventionists.

Parent Training is an Evidence-Based Strategy for Improving Child Language Outcomes

Teaching parents to be effective communication partners has been widely studied. The effects of parent-implemented language intervention were summarized in a recent meta-analysis (Roberts & Kaiser, 2011). Eighteen group design studies examined the effects of teaching parents to use language support strategies on child communication skills. Across studies, measures, and child populations, the findings indicated that parent training had positive effects on children's language. For example, children whose parents received training had an average of 53 more spoken words than those children whose parents did not receive training, which is equivalent to an effect size of g =.48. Parent training also had positive effects on receptive vocabulary (g = .38) and expressive morphosyntax (g= .82). Across studies, the most common strategies taught to parents were responding to child communication, using specific language models, expanding and recasting child communication, and balancing child and adult turns.

The effects of parent training have also been examined within the context of single subject designs which have allowed for a more detailed examination and description of specific parent training procedures (Kashinath, Woods, & Goldstein, 2006; Gillett & LeBlanc, 2007). For example, in a recent single subject design (Roberts, Kaiser, Wolfe, Bryant, & Spidalieri, submitted) four caregivers (three parents, one grandparent) were taught four Enhanced Milieu

Teaching (EMT; Kaiser, 1993) strategies using Teach-Model-Coach-Review parent training procedures (described in detail below). All four caregivers learned to implement EMT in the clinic and generalized their use of strategies to home interactions with their children. Children showed changes in their language use concurrent with the parent-implemented intervention. Therapist training of caregivers was carefully monitored and parent use of EMT strategies and child language were measured in each session, as well as across settings and over time. Results from this study indicated that systematic parent training is effective for teaching parents to use specific language support strategies and such training results in improved child language outcomes.

While both group and single case design studies indicated that parent training can be an effective intervention for improving child communication, most studies have provided very little information about the specific strategies used to teach the parent. Thus, there is a need to describe parent training procedures that have been used in research studies more explicitly in order for clinicians to use these procedures effectively.

Purpose and Objectives

The purpose of this paper is to discuss an evidence-based model for parent training used to teach Enhanced Milieu Teaching and to consider the skills and training that Speech Language Pathologists (SLPs) need to be effective in implementing this parent training approach. Specifically, the paper addresses five objectives:

a) To be knowledgeable about the evidence for parent training as an effective early language intervention approach
b) To understand the roles parents of young children with language impairments can play in supporting their children's communication and language development

c) To have a basic understanding of Enhanced Milieu Teaching (EMT) as naturalistic intervention appropriate for parent implementation
d) To have a basic understanding of the Teach-Model-Coach-Review parent training approach
e) To identify the skills, strategies, and professional development needed to implement evidence-based parent training strategies.

Roles for Parents of Children with Language Impairments

All parents are communication partners and language teachers for their young children. In the context of these natural roles, there are opportunities for parents of young children with language impairment to assume other, more specifically defined roles to support their children's language and communication development. The roles fit along a continuum from most similar to typical parenting roles to most like a systematic interventionist teaching specific language skills.

The most natural role is one of **a communication partner who teaches language informally** through modeling and responding, as is typical of parents of young children. Parent training may be important to sustain parents of children with language impairments in this role. Communication is a dyadic process; when children have few communication skills, are having difficulty learning the forms of language (sounds, words, sentences), or are not responsive to parents' typical communicative behaviors (as might be the case with a child with autism), the communication between parent and child is disrupted. Specific training will enhance parents' effectiveness in communicating with their child, assist them in adapting their use of normative parent-child interaction strategies, and contribute to building a strong, more connected communicative relationship with their child. By helping parents fine tune their use of normative strategies, parent training may improve children's language and communication skills. The SLP

observes parents and children interacting, considers children's needs for support, and may offer information, informal training, and limited coaching to help parents respond, model, and communicate with their children more effectively. The emphasis is on maintaining the natural roles of communication partner and teacher.

A second role for parents in one of **co-interventionist**, working closely with the SLP to promote generalization of newly learned skills across settings and people. This role maintains the normative parent as communication partner and first language teacher and adds some additional naturalistic supports for child communication. In this role, parents continue to model language in context and include language that is similar to the language forms and functions being taught by the SLP. Parents in the role of co-interventionist are fully integrated into their children's language intervention. However, SLPs direct the intervention, provide systematic training for the parent in the clinic and at home, and evaluate parent implementation and child progress.

Parent training may include a review of child targets, analysis of family routines and activities where these targets can be modeled by the parent and used by the child, and training in naturalistic intervention procedures that can be used in daily living contexts. SLPs plan and lead the intervention and continue to intervene with children in clinic or classroom settings. Parents support the SLP-directed intervention by providing opportunities for practicing language at home and in the community within everyday activities. Specific parent training is needed to support parents in this role. However, the amount, duration, and scope of specific training may vary. Limited training would include providing the parent with a list of targets, reviewing home activities where these targets might be modeled, and teaching modeling as a strategy that can be used to support children's use of language. Systematic training would include teaching parents

strategies such as modeling and expanding communication and prompting use of specific language forms in functional contexts.

A third role for parents is one of **primary interventionist**. Parents in this role may be their children's primary or only interventionist. SLPs train parents in systematic teaching strategies, conduct assessments, assist the parent in planning intervention, and may continue to support parents' implementation of a direct instruction protocol or a more naturalistic, embedded teaching plan, but they do not provide direct intervention for children. This role might be chosen by parents in different circumstances. For example, the parent of a toddler with expressive language delays might want to teach her child at home since he does not yet attend preschool. After systematic training and with support of the SLP, a parent might feel confident that she can provide sufficient intervention for a period of time (e.g., 3-6 months) until it is certain her child needs more intensive intervention in a clinic or preschool setting. Such a treatment might be an alternative to traditional speech therapy; however, the SLP would be closely involved in assessments, training the parent in language support strategies, and evaluating child progress.

Parents may move among these roles with their young children's changing needs for communication support based on their interests and skills, the time they have available for supporting their children's communication, and the training and support SLPs can provide. In each role, the amount of systematic parent training needed for parents to confidently support their children's communication varies based on both the children's needs and parents' extant skills. For example, providing support for a child who uses an AAC system may require intensive parent training because of the child's unique communication needs. Alternatively, a parent who has been very successful as a co-interventionist and who has a child with mild expressive delays, might require very little additional training and support to serve as her child's

primary interventionist during the summer vacation when preschool-based SLP services are limited.

When Parent Training Is Appropriate

Parent training is most likely to be effective when parents are interested, motivated to learn new communication support strategies, have time to use language intervention strategies with their children, and have sufficient time to carry out the other roles and activities required in their lives. Parent training is not always timely or appropriate; however, parents are in the best position to choose when parent training is feasible and what type of training (formal or informal; group or individual) best suits their needs. In general, parent training will vary based on the roles parents choose and their children's need for communication support and intervention. Regardless of parents' chosen roles, all parent training should be based on effective adult instructional strategies and should focus on language intervention procedures that are evidence-based. The duration of training should match parents' goals and time commitments. Most importantly, the training should be practical; it should teach parents the skills they need in their chosen role.

Parent Training is a Cascading Intervention Model in which SLPs Play a Critical Role

The goal of parent training is ultimately to provide systematic support for the development of children's functional communication skills. A secondary goal is to promote positive, successful parent-child communication in everyday settings. Teaching parents to use specific language support strategies to improve language skills in their children is a cascading intervention model (See Figure 1). This model involves skilled interventionists, typically SLPs, teaching parents to use specific language intervention strategies which in turn improve children's use of language and communication. The effects on children's language depends on (a) effective parent training and (b) parent use of language support strategies with sufficient frequency and

accuracy to influence their children's development. The specific language support strategies taught to parents may vary based on the children's needs and the parents' chosen role. Most evidence-based strategies taught to parents have been derived from descriptions of the caregiver-child interactions (Girolametto, Weitzman, Wiigs, & Pearce, 1999; Tamis-LeMonda, Bornstein, & Baumwell, 2001; Tomasello & Todd, 1983; Vigil, Hodges, & Klee, 2005), behavioral learning principles (Schreibman & Koegel, 2005) or a hybrid of these (Dawson et al., 2010; Kaiser, 1993).

Implementing cascading interventions requires skills for parent training in addition to skills as an effective child clinician. Fluency in the child language intervention model is necessary to effectively teach parents through didactic instruction, to model the intervention for the parents, and to troubleshoot difficulties in implementation or slow child progress. SLPs have skills for teaching parents the specific language intervention strategies and target content that fits their children's communication development. Further, they must be prepared to monitor the effectiveness of their approach for teaching individual parents, the parents' implementation of intervention strategies, and children's language and communication progress.

Enhanced Milieu Teaching: An Evidence Based Language Intervention

Enhanced Milieu Teaching (EMT) is a naturalistic communication intervention that combines elements of responsive interaction with systematic modeling and prompting to promote spontaneous, functional communication. EMT is derived from both behavioral and developmental principles to teaching communication to young children (Hancock & Kaiser, 2006). EMT is based on two key premises: 1) communication is learned in the context of interactions with partners and 2) when partners use effective behavioral and developmental

strategies for teaching and supporting child communication, children can learn functional and elaborated language and communication skills in the context of everyday interactions.

EMT strategies include following the child's lead in conversation and play, responding to communicative initiations from the child with target language, expanding child utterances by adding words to increase complexity while maintaining the child's meaning, arranging the environment to support and elicit communication from the child, and systematic use of milieu teaching prompts (model, mand-model, time delay, and incidental teaching). Each of the seven core EMT strategies teaches new functional language skills while building social interaction and activity engagement. Table 1 provides a summary of the key EMT strategies.

The effects of EMT have been examined in more than 30 studies, including ten studies in which parents were taught to implement the strategies with their children. EMT has been shown to produce increases in communication skills for young children with significant communication impairment including children with language delays (Hancock & Kaiser, 1996; Roberts & Kaiser, 2012), children with intellectual disabilities (Kaiser & Roberts, 2013), children with autism (Hancock & Kaiser, 2002), and children who are nonverbal (Kaiser, Ostrosky, & Alpert, 1993). Children receiving EMT from therapists and/or a parent have demonstrated increases in frequency of communication (Kaiser, 1993; Wright, Kaiser, Reikowsky, & Roberts, 2012), vocabulary ((Kaiser, 1993; Scherer & Kaiser, 2010), and complex syntax (Kaiser & Hester, 1994; Warren & Kaiser, 1986). Children taught using EMT strategies maintained newly learned targets (Warren & Kaiser, 1986) and generalized across settings and people (Goldstein & Mousetis, 1989; Kaiser & Roberts, 2013; Warren & Bambara, 1989).

Teaching Parents EMT using The Teach-Model-Coach-Review Approach

Across studies, we have developed a systematic approach to parent training: Teach-Model-Coach-Review. This approach is based on strategies that have been effective in teaching adult learners, principles of family-centered intervention, and specific empirical evidence indicating the model is effective. In this approach, EMT skills are taught in a sequential order to build a foundation for positive interactions and a specific skill set for teaching language and communication. The approach is sufficiently flexible such that training can be adapted to fit: a) the parents' skills, b) their desired role in their child's language intervention, and c) the child's needs for specific support to learn and use language in everyday interaction. We conduct training in a clinic playroom setting and at home to ensure that the parents have concentrated practice (clinic) and that they can apply EMT in their interactions at home.

Effective Methods for Teaching Adult Learners

The foundation of the Teach-Model-Coach-Review model is based in the six adult learning methods summarized by (Goldstein & Mousetis, 1989; Kaiser & Roberts, 2013; Warren & Bambara, 1989) in a meta analysis. **Introduction** involves previewing the material that is the focus of the teaching. **Illustration** includes a demonstration of the use or application of the knowledge or skill. **Practice** involves the adult learner using the new knowledge or skill. **Evaluate** includes the adult learner assessing the outcome of using the new knowledge. **Reflection** is engaging the adult learner in a self-assessment regarding his or her knowledge. **Mastery** extends reflection by engaging the adult learner in a self-assessment that is linked to a set of external standards. Trivette, Dunst, Hamby, and O'Herin (2009) found that each of these adult-learning strategies had positive effects on adult knowledge, skills, attitudes and self-efficacy. For example, traditional workshop lectures (introduction) had an effect size of d= .68 while role-playing (illustration) had an effect of d=.87. Real life application of knowledge

(practice) had an effect of *d*=.58 and evaluation of strengths and weaknesses had an effect of *d*=.96. Reflection in the form of discussing a plan for performance improvement had an effect of *d*=1.07 and mastery of the knowledge when compared to a standards-based assessment had an effect of *d*=.76. While individual adult learning strategies have positive effects on adult learning outcomes, the largest effects on adult learning occur when multiple strategies were used concurrently. Trivette et al. (2009) found that incorporating more adult learning methods is strongly associated with larger effects. For example, the effect size for five adult learning methods was *d*=1.25 while the effect for between 2 and 4 strategies was *d*=.75. Based on the finding that multiple strategies were more effective, we incorporated all six of the adult learning methods found to be effective by Trivette et al. (2009) into this model of parent training.

Building Relationships with Parents

In addition to using effective strategies for teaching adult learners, building positive relationships with parents during parent training is critical to the success of parent training. Relationships between therapists and parents are built by applying a core set of family-centered practices during every interaction with the family. Epley, Summers, and Turnbull (2010) summarized these core practices and we adapted them to fit the content of the EMT intervention. First, we focus on the **needs of the entire family**, not just the child's communication skills. We begin the intervention by asking families about their child, their routines and interactions at home, and their pressing needs for support for themselves and their child. We focus on attending to family concerns about daily interactions because we have found that parents are more likely to use specific language support strategies when these strategies meet their specific needs. We give **families choices** throughout the parent training process. For example, parents choose the routines in which they would like to practice the language support strategies. Parents choose which

specific words they would like to target with their child. Parents also have choices within the parent-training process for the method (how much modeling, roleplaying, how much written material, the use of video) and place of instruction (clinic or home, within the routine or before the practice session begins). We highlight **family strengths** by showing videos of existing positive interactions between parents and children and by pointing out how the interaction strategies that parents already use have contributed positively to their child's development. Showing parents that we recognize their existing language support strategies often increases their confidence in their interactions with their child and makes them more open to fine tuning these strategies We create a **collaborative partnership** with parents by seeking input from the family during every part of the process. We view parents as the expert on their child's communicative needs. We set the expectations that parents and therapists bring specific expertise, that children benefit from having the parent + therapist team supporting their communication development, and that we will work in partnership to make decisions throughout the training process. Finally, we emphasize the effects of parents' use of language support strategies on their child's communication rather than simply focusing on changing parents' behaviors. In sum, we present parent training as a process that serves families everyday needs for improved communication in their daily routines by recognizing parents' existing skills and partnering with experienced therapist to increase parents' expertise in supporting their child's language development.

Evidence Supporting the Teach-Model-Coach-Review Approach

Components of this approach to parent training have been included in many of our parent-implemented intervention studies and may be found in other parent training studies as well. We specifically evaluated this systematic approach in two experimental studies. The Teach-Model-Coach–Review parent training model was developed in the single subject design study

(Roberts et al., submitted; described above) and subsequently was applied in a small randomized study (Roberts & Kaiser, 2012). In this study, parents of toddlers with receptive and expressive language delays (N=35) were randomly assigned to a business as usual control or parent plus therapist-implemented EMT. Parents in the EMT group received 28 individual parent training sessions at home and in the clinic using the Teach-Model-Coach-Review protocol. The parent training model was implemented with high levels of fidelity across therapists. Parents learned all EMT strategies with effect sizes (comparing trained and untrained parents) ranging from d=1.81 to d =3.19 across language support strategies. Changes in parent strategy use had a subsequent effect on child language outcomes, with effect sizes ranging from d = .29 for parent report of expressive vocabulary to d = .67 for total language standard scores on the *Preschool Language Scale-4th Edition*. This study confirmed the effectiveness of the cascading model of intervention and provided further evidence supporting the use of the Teach-Model-Coach-Review method.

Implementing Teach-Model-Coach-Review to Teach EMT

The Teach-Model-Coach- Review system of parent training involves four components that cumulatively include each of the critical adult learning strategies summarized by Trivette et al. (2009). These components occur within a 60-minute session at home or in the clinic across 24 to 36 individual sessions.

Parent training begins with the **teach** component, which involves two parts. First, the parent attends a 60-minute workshop without their child to focus on learning specific EMT strategies (the sequence of teaching the strategies is discussed in the next section). During this workshop, the parent learns about the target strategy by listening to an overview of the strategy. This includes a description of the strategy with examples, specific steps to implement the strategy, and a rationale for using the strategy. Next, the parent watches a video in which they are

using the target strategy to some degree and their child has a positive response to their use of the target strategy and another video in which they fail to use the strategy and the child does not respond as positively. This contrast demonstrates to the parent the impact that their behavior has on their child's communication. The therapist summarizes the key steps in the strategy with additional simple examples. Next, the parent role-plays with the therapist to practice the target strategy. The parent is given goals for their use of each target strategy that include when to use the strategy and how often or how accurately the strategy is to be used. Examples of parent goals are provided in Table 1. A critical aspect of the training process is ensuring that the parent meets criterion levels of performance on one strategy before learning and attempting to implement the next strategy. Criterion levels are based on implementation associated with positive child progress across EMT research studies. The parent is shown graphs illustrating their initial levels of the target behavior. As training continues, they are shown graphs illustrating their levels of previously learned skills before and after training. Lastly, the parent and the therapist discuss how the target strategy may be implemented across the day at home in familiar routines.

The second part of the **teach** component occurs during the first 10 to 15 minutes of the next EMT therapy session following the workshop. Both the parent and the child are present. During this first part of the practice session, the therapist asks the parent about their understanding and comfort with the specific EMT strategy taught in the workshop and how they think their child will or is responding to the strategy. Then, the therapist reviews the key elements of the target strategy and briefly practices with the parent by role-playing. Before beginning practice with the child, therapists ask the parent if they have questions and answers any questions the parent poses.

After the brief review of the target strategy, the therapist **models** the target strategy with the child. During this 15- to 20-minute segment, the therapist models with the child during a routine or activity of the parent's choice. The therapist verbally highlights the strategy while interacting with the child. For example, if the target strategy is expansions, the therapist might say, "He said 'ball' and then I said 'roll the ball,' which is an expansion." During this segment, it is critical that the therapist maintains her engagement with the child. Thus, the therapist may briefly describe their actions without looking at the parent, so that the therapist's focus of attention remains with the child.

After watching the therapist use the strategy with the child, the parent then practices for 15 to 20 minutes. During this practice session, the therapist provides coaching in the form of praise and constructive feedback. Examples of coaching for each EMT language support strategy are provided in Table 2. The rate of coaching depends on the needs of individual parents. When a strategy is first introduced, parents often require a higher level of constructive feedback than is needed later in training. While the amount of constructive feedback generally decreases over time for each strategy, the amount of praise remains relatively constant. Furthermore, the therapist makes an effort to balance praise and constructive feedback when the parent first learns a strategy to build confidence with the strategy.

Following this practice session, the parent and therapist review the session. The therapist begins by asking the parent about their perceptions of the session. The parent and therapist discuss the session. The therapist summarizes their impressions of the session by describing the parent's use of the strategy in relation to the child's communicative behavior. For example, the therapist might say "You did a really nice job adding words to what Sally said to you. I noticed that she imitated these longer sentences at least three times!"

EMT strategies are taught sequentially using the Teach-Model-Coach-Review approach. First, parents are taught strategies for playing and engaging with their child across naturally occurring routines and activities. Parents learn to choose toys and activities that are interesting and motivating for their child. Parents learn specific strategies for playing with toys and structuring daily activities that are appropriate for their child's developmental level.

Second, parents are taught to notice and respond to their child's communicative attempts. Parents are encouraged to sit face to face with their child while the therapist supports the parent to notice and respond to the unique ways their child communicates. Third, parents learn to balance communicative turns by first waiting for their child to communicate and second, by responding to communication with only one verbal turn. By limiting the parent's responses to a single turn, the child has more opportunities to initiate. Fourth, parents learn to "mirror" (i.e., imitate their child's actions) and "map" (i.e., provide a specific target word for these actions). This strategy ensures that parents' language corresponds to their child's focus of interest. For example, if the child is stacking the blocks to make a tower, the parent joins the child in stacking, by imitating her action (putting a block on the tower) and saying "We are stacking blocks."

Fifth, once parents have mastered general responding to their child's communication, they are taught to respond using specific language models. Language models are (a) at the child's specific target level, (b) forms the child is ready to learn, and (c) appropriate for the child's specific focus of interest and actions. For example, when mirroring the child actions and mapping those actions with words, parents are taught to use language that is at their child's target level by matching both the length his utterance and the semantic complexity of his vocabulary. Ideal target-level language is slightly more complex and slightly more diverse than the child's current language but within the range of skills that can easily be learned through modeling and

imitation. When children communicate, parents are taught to expand their child's communication by adding a semantically meaningful word. Gestures are expanded with words; single words are expanded into early two-word utterances mapping semantic relations. When children have two- or more word utterances, expansions contain key words for building phrases and sentences. For example, if the child points to the block, the parent is taught to point to the block and say "block." If the child says "block" the parent is taught to imitate the word and add a word (e.g., "stack the block").

Sixth, parents are taught several environmental arrangement strategies that involve structuring activities in ways that increases the likelihood that children will initiate communication without verbal prompting. For example, the adult may provide the child with an object that requires assistance (e.g., an unopened juice box, an unopened jar of play-doh) and then wait for the child to initiate a request for help. The adult may provide the child with a limited quantity of the desired material (e.g., only a single toy car) and wait for the child to request more cars. Finally, parents learn to use specific milieu teaching prompting strategies. These prompting strategies include using open-ended questions, choice questions, and direct prompts ("say" prompts) to elicit child target language. Prompting uses a least to most support sequence to ensure that children are successful in responding to the prompt. Each prompting episode ends positively with access to preferred materials or assistance as requested by the child and an expansion of the child's response. Using these specific prompting procedures, parents prompt their child to use language targets during highly motivating and reinforcing opportunities. Table 1 summarizes the sequence used to teach EMT.

Becoming an Effective Parent Trainer

In this final section, we discuss some additional principles that guide SLPs in teaching parents to use EMT following the Teach-Model-Coach-Review model and the skills that will be

needed to effectively implement this model. This summary of principles and skills derives from training more than 300 professionals to implement EMT and more than 30 masters-level clinicians to train parents to use EMT.

The foundation of effective parent training lies in therapist's knowledge of language development, their understanding and ability to address the unique characteristics of specific child populations, and their fluency in the intervention they are teaching parents to implement. Simply put, therapists cannot teach what they do not know. While professional training (course work, clinical training, internships) provide opportunities to learn about language development and the communication needs of children with language impairment, the ability to apply this knowledge and to speak fluently to parents about development and their child's needs and strengths requires specific practice in working with parents. Fluency in applying EMT is developed only through practicing the strategies with a range of children until high levels of fidelity are achieved.

A system for supporting the application of the Teach-Model-Coach-Review approach to teaching EMT requires tools for video recording and data collection. It is essential to evaluate parent use of the EMT strategies and child communication in order to link parent training to child progress. Video recording is helpful for collecting positive examples of parent behavior and the impact on child behavior. Counting and summarizing data in a simple graphic format allows therapists to provide performance-based feedback and to assess parent performance in relation to established criteria for effective implementation (see Roberts & Kaiser, 2012 for these criteria for each EMT strategy). It is not essential to video tape or collect data in every session. However, it is essential to review parent and child performance before introducing a new skill.

To become proficient as EMT parent-trainers, therapists should consider monitoring their own fidelity in implementing the Teach-Model-Coach-Review approach. In research studies, we video or audio record the training sessions including workshops and individual practice sessions and complete a fidelity checklist to assess therapist use of the teaching strategies associated with our model. An example of a fidelity checklist is in Table 3. A fidelity checklist could be completed without the video or audio recording; however, occasional video recordings of therapist training are useful for self-evaluation of manner as well as content of training.

The items listed in the therapist treatment fidelity checklist are indicative of the skills needed by therapists to be effective parent trainers: skills for forming relationships and partnerships with families, skills for implementing EMT effectively with target children, skills for presenting information, modeling for parents, coaching parents, and reviewing parent progress. Parent trainers must be able to troubleshoot problems in parent implementation of EMT, prescribe adjustments during practice sessions, and link parent performance of the EMT strategies to the child's progress. This set of skills requires practice and commitment to becoming an effective parent trainer. The benefits of the time and effort required to become an effective parent trainer are considerable, as indicated by evidence that parent training in EMT has a consistent positive effect on the language outcomes for young children.

Conclusion

In this paper we have summarized the principles for teaching parents to be effective implementers of EMT, an evidence-based language intervention. The principles and procedures outlined here are derived from research on parent training, adult learning, and use of performance-based feedback. By summarizing both the methods of parent training and

naturalistic teaching procedures, we hope to have provided guidance for clinicians committed to developing their skills in translating research into effective clinical practice.

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Figure 1

Cascading Model of Language Intervention

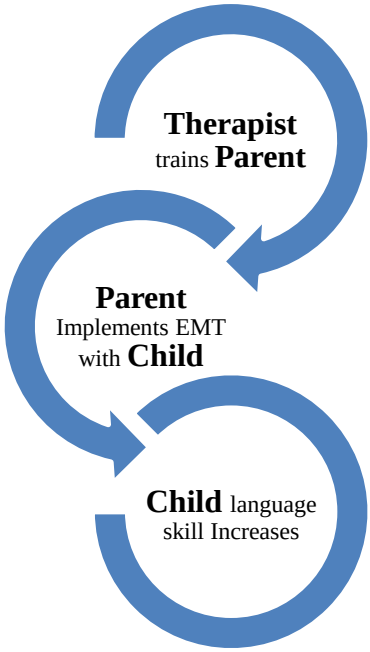

Table 1
Components of EMT, Parent Goals, and Sample Schedule

Component	Specific Strategies	Examples	Parent Goals	Sample Schedule
Play and Engage	• Choose interesting and engaging toys • Join the child by actively playing with toys he chooses • Teach target level play actions and sequences	• Choosing blocks for a child at the pre-manipulative level • Modeling stacking the blocks, placing blocks in dump truck • Handing blocks to the child to sustain play • Modeling a routine of " put blocks in truck, dump blocks"	• 80% of the time the parent is playing at the child's level with toys that are of interest to the child	• Sessions 1-4
Notice and Respond	• Sit face to face with the child • Follow the child's lead • Respond to all child communication	• Adult follows the child when the child moves from blocks to cars • Child vocalizes while playing with the baby and the adult says "baby" • Child points to a toy on the shelf, and adult responds by labeling the toy " truck"	• 80% of child communication are followed by a related, contingent response	• Sessions 5-6
Balance Turn Taking	• Balance turns by responding to each child utterance with only one comment	• Child babbles and points, Adult responds with word, sign and point to object then waits for child to take another turn • Child signs, "More blocks", Adult responds with "You need more blocks" and giving blocks, then waiting for child to take another turn	• 75% of parent turns are in response to child communication or action	• Sessions 7-8
Mirroring and Mapping	• Imitate the child's non-verbal actions (mirror) and model (map) language to these actions	• Child makes a snowman with playdough, adult makes a snowman with playdough and models "make a snowman"	• 75% of parent turns are in response to child communication or action	• Sessions 9-10
Modeling and Expanding Communication	• Model point, show and give gestures • Model target signs or words • Expand child communication by adding words and or symbols	• Pointing to the apple and saying "apple" • Showing a dog as adult takes it from a box and labeling it " dog" • Modeling the word/sign "baby" while playing with the baby • Child signs or says "baby" and the adult signs or says, "feed the baby"	• 50% of the parent's utterances are at the child's target level • 40% of child utterances are expanded by the parent	• Sessions 11-14

Environmental Arrangement (EA) Strategies	• Assistance • Choices • Waiting with routine • Waiting with cue • Inadequate portions	• Adult gives the child a juice box and waits for the child to ask for help, then models the phrase " open juice" while opening the box • Adult holds up two choices and waits for the child to make a choice, then labels the choice as she gives it to the child	• 80% of EA strategies are correctly executed	• Sessions 15-18
Milieu Teaching Prompting Strategies	• Open questions, choice questions, "Say" prompt • Episodes begin with requests and end with expansions	• Child requests the ball and the adult says "say 'ball," • Adult holds up "juice" and "milk" and says "juice or milk?"	• 80% of Milieu Teaching strategies are correctly executed	• Sessions 19-24

Table 2
Examples of Praise and Constructive Feedback for Core EMT Strategies

	Praise	**Constructive Feedback**
Play and Engage	"Great! You followed his lead and joined him to build a tower."	[Child is stacking blocks and parent is making the animal eat the bock] "Let's try stacking the blocks with him."
Notice and Respond	"Great noticing that he pointed."	[Child says "ball" and parent doesn't respond] "Respond to him. He said 'ball'."
Matched Turns	"Great! You responded to his word with just one turn."	[Parent takes multiple turns in a row] "Wait for him to communicate before taking a turn."
Mirroring and Mapping	"Nice job imitating what he is doing and giving him the word – 'drive'."	[Child is driving the car and not communicating, parent is watching]. "Let's try driving the car with him and then saying 'drive'."
Expansions	"Perfect expansion – she said 'dog' and you said 'the dog eats'."	[Child says "car" and parent doesn't respond] "Expand, say 'drive the car'."
Environmental Arrangement	"Nice! You waited for him to ask you before helping him open his snack."	[Child is playing with water and not talking] "Try filling the cup up with water and pouring a little into the tub and then wait to see what he will do."
Milieu Teaching	"Wow! You prompted when she was requesting but not using a target word – perfect!"	[Child gives a jar to the parent] "Here is a great time to prompt since she is asking for your help. Say 'tell me what you want'."

Table 3
Example Fidelity Checklist for Implementing Parent Training

Initial Caregiver Training Session	
Therapist reviews 4 strategies: 1. Notice and respond 2. Take turns 3. Play and engage 4. Mirror and map (when the child is not communicating)	/4
Therapist & caregiver model/role-play mirroring and mapping with the selected toys.	/1
Therapist & caregiver discuss at least 3 novel ways to play with the selected toys.	/3
Therapist checks for understanding and invites caregiver questions before the session.	/1
Therapist Practice Session	
Therapist highlights mirroring and mapping at least 3 times.	/3
Therapist highlights responding, taking turns, and following the child's lead at least 3 times.	/3
Caregiver Practice Session	
Therapist gives caregiver positive or training feedback at least once per minute.	/15
Ending Caregiver Training Session	
At the end of the session the therapist asks the caregiver how he/she felt the session went.	/1
Therapist summarizes how the caregiver responded, took turns, played, and/or mirrored and mapped.	/1
Therapist relates the caregiver's performance and child's behavior during the practice session at least once.	/1
Total	/33