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Manualized parent training of incidental teaching

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A dissertation submitted to the Department of Psychology in the College of Arts and Sciences at Western New England University in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Behavior Analysis
Supervised by:

Amanda Karsten, PhD, BCBA-D

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Abstract

The authors developed a training manual designed to teach parents to use incidental teaching (IT) with their young children. We used a group-comparison design with an embedded concurrent multiple-baseline design between pairs of caregivers to examine the feasibility and efficacy of the manualized IT training. In Phase 1, professionals in related fields completed a survey regarding the manual's content. All professionals responded favorably to the manual (91% satisfaction), and feedback from the survey was incorporated into the final training materials.

In Phase 2, the trainers led four groups of parents through a 2.5-3 hour training. Trainers (two certified speech and language pathologists {SLPs}) were rated on utilization of specified IT procedures and level of skill and clinical judgment demonstrated in implementing each procedure (e.g., role plays, written exercises). Parents were assessed on fidelity of responses to role plays and exercises during the training. The trainers administered 3 out of 4 trainings with high competence and adherence, and all parents demonstrated fidelity with procedures targeted by the manual.

In Phase 3, we evaluated caregiver implementation of IT procedures prior to and following manualized training, and we measured child mand acquisition prior to and following parent-implemented IT. By the final post-training assessment, all parents implemented IT procedures with high accuracy, 4 out of 8 children emitted more complex mands and 6 out of 8 children increased their use the of prescribed mand. This study completed a necessary step toward future efficacy testing and widespread dissemination of parent-implemented IT.

Manualized Parent Training of Incidental Teaching

Language impairment is a characteristic of children with autism spectrum disorder (ASD), and the prevalence of language impairment in otherwise typically developing preschool-age children ranges from 5-19% (Nelson, Nygren, Walker, & Panoscha, 2006). Numerous studies have demonstrated that language delay is a predictor of lower than average intelligence (Silva, Shelia, & McGee, 1987), decreased reading ability (Catts, Fey, Tomblin, & Zhang, 2002; Scarborough & Dobrich, 1990; Silva, Shelia, & McGee, 1987), and increased behavior problems (Silva, Shelia, & McGee, 1987).

A descriptive study by MacDonald, Parry-Cruwys, Dupere, and Ahearn (2014) found that language scores improved for the majority of children with ASD who received behavior-analytic language intervention (e.g., 1:1 teaching, following the child's motivation, prompting correct responses, fading prompts, and using natural reinforcement) as part of a comprehensive treatment package before the age of 3 years. Children in MacDonald et al. who started treatment before their second birthday demonstrated greater gains than children who enrolled at a later age. Roberts and Kaiser (2015) demonstrated that young children (ages 22-24 months) *at risk* for language delay also benefited from behavior-analytic language intervention. Parents were trained to implement treatment with their at-risk children (e.g., responding to communication initiations, expanding child utterances, arranging the environment to encourage communication, and prompting); the group of children that received early language intervention achieved greater overall language improvements than the group that did not receive treatment (Roberts & Kaiser, 2015).

To access early intervention (EI), children must be referred by a physician or receive a diagnosis before 3-years-old (36 months). To receive a diagnosis, a child must be evaluated by

an EI team (e.g., specially trained physician, psychologist, speech and language pathologist, neurologist). Unfortunately, according to the Center for Disease Control and Prevention, the median age of earliest known ASD diagnosis is 53 months (Christensen et al., 2016). According to a review conducted by Nelson, Nygren, Walker, and Panoscha (2006), optimal screening methods for speech and language delay have not been identified and pediatric screening practices are inconsistent. The evaluation process can also be delayed due to wait lists; according to L & M Policy Research (2014), Utah had a 3 to 4 month wait list for state-offered diagnostic services, and the District of Columbia had an 8 to 12 month wait list.

Receiving a diagnosis does not guarantee immediate treatment; there are also wait lists for treatment due to lack of EI service providers. For example, CBC news (2013) reported that in Nova Scotia 250 to 300 children were on the wait list for EI, and the mother of a 3-year-old boy diagnosed with autism reported they waited 16 months before receiving services. According to Tina Gerber-Winn, deputy administrator for Nevada's Aging and Disability Services Division (as cited in Amaro, 2014), the average time it takes for a child on Las Vegas's wait list to receive services is 275 days.

Children who do not receive EI because of a delayed diagnosis or delayed treatment are at risk for a persisting language impairment as well as the secondary problems associated with language impairment. One solution to the problems of delayed diagnosis and delayed professional treatment services may be for researchers to package an effective language-building intervention for direct dissemination to parents of at-risk or recently diagnosed children. The parent is often a young child's main communication partner, and the extensive time a parent spends with his or her child provides multiple opportunities throughout the day to teach language during this critical time before 3 years of age.

Goals of early language intervention typically consist of increasing expressive and receptive language (Lovaas, 1987; Roberts & Kaiser, 2015; Sallows & Graupner, 2005). Manding, also known as requesting, is a preliminary target of expressive language intervention (Sallows & Graupner, 2005). Mands directly benefit the child by providing access to desired reinforcers (e.g., milk) and by removing aversive stimuli (e.g., a loud noise). Mand repertoires give children control over their social environment, in turn increasing the value of interaction (Sundberg & Michael, 2001). Mands can be targeted to replace problem behavior in children with developmental disabilities (see Tiger, Hanley, & Bruzak, 2008 for a review of functional communication training) and to prevent the occurrence of problem behavior in children who attend preschool (Hanley, Heal, Tiger, & Ingvarsson, 2007) or a Head Start classroom (Hanley, Fahmie, & Heal, 2014). Teaching mands may also facilitate a child's acquisition of other language such as tacts (i.e., expressive labels; Petursdottir, Carr, & Michael, 2005) and echoics (i.e., vocal imitation; Drash, High, & Tudor, 1999).

Naturalistic interventions are an evidence-based procedure used to teach mands (i.e., requests) by capturing or contriving a child's interest in activities and items as the context for teaching. In 2010, the National Professional Development Center deemed naturalistic interventions an empirically-supported treatment. Incidental teaching (IT) is a practice included in the collection of naturalistic interventions. Incidental teaching was identified by the Interventions for ASD Report (2009) as an established evidence-based practice for improving communication skills, and IT was identified by the National Standards Project (2015) as an established communication treatment. Incidental teaching is also indicated as a defining procedure by The Behavior Analyst Certification Board guidelines for applied behavior analysis (ABA) for people with ASD (2014). Incidental teaching consists of four teacher-implemented

steps: (1) arranging the environment to contain desired items, (2) waiting for the child to demonstrate interest in an item, (3) requiring a more complex response, and (4) providing the requested item following that response or an acceptable approximation (Hart & Risley, 1968).

Naturalistic interventions other than IT utilize the same basic steps informed by the same basic principles. One feature that distinguishes certain applications of naturalistic language intervention is the level of teaching intensity or learning opportunities per mand. Teacher-led procedures, such as modified incidental teaching sessions (MITS), maximize learning opportunities because the teacher presents multiple trials targeting the same response with the same reinforcer (Charlop-Christy & Carpenter, 2000). Specifically, the MITS teacher contrives opportunities to request (e.g., provide only one crayon at a time when a child demonstrates interest in coloring) in addition to unplanned or captured opportunities to teach (e.g., child stops coloring and walks to the playground door). Play-based procedures such as the natural language teaching paradigm (Koegel, O'dell, & Koegel, 1987) and Enhanced Milieu Teaching (Kaiser & Roberts, 2013) may consist of more purely child-led or captured learning opportunities. For example, instead of the teacher presenting repeated trials with the same target response and reinforcing item (e.g., child signs "crayon" and receives one crayon), the teacher allows frequent opportunities to switch activities or items and prompts a wider variety of target responses per item (e.g., child signs "crayon" and receives the bin of crayons on trial 1; child signs "blue" and the teacher draws a silly face with a blue crayon on trial 2). Using IT to teach mands in both teacher-led and child-led contexts maximizes learning opportunities with a wide array of items and a variety of responses.

Naturalistic interventions have been effective for individuals with varied skill profiles and can be adapted to different modes of communication. Incidental teaching is often used for

children with ASD, but it has also been successfully used to teach mands to children at risk for language delay (Hart & Risley, 1974), adults with traumatic brain injury (Lennox & Brune, 1993), typically developing preschool children (Hart & Risley, 1974), and in a treatment package for children with Down syndrome (Laski, Charlop, Kroeger, & Nelson, 2006). Incidental teaching is efficacious with children who use vocal language (Hart & Risley, 1968, 1974, 1975), children who use sign language (Hsing-Hsiu, Wilder, & Abellon, 2011; Oliver & Halle, 1982), and children who use augmentative and alternative communication (Hsing-Hsiu, Wilder, & Abellon, 2011; Olive et al., 2007).

Previous studies demonstrate that parents can use naturalistic interventions to increase their child's mands. Charlop-Christy and Carpenter (2000) taught parents to implement MITS with three boys diagnosed with autism; parent-implemented MITS led to acquisition and generalization of requests and comments. Hsing-Hsiu, Wilder, and Abellon (2011) successfully trained two parents and one respite worker to use IT to teach three children with ASD to mand; probe data indicated that the parents also used IT to teach mands for items that were not directly addressed during parent training.

Although multiple peer-reviewed articles support the efficacy of parent training on IT or related procedures, researchers have yet to compile and evaluate a focused manualized training on the use of IT. Existing parent training manuals are both time intensive and comprehensive (i.e., addressing skills in multiple developmental domains beyond communication), as described below.

The manual *How to Teach Pivotal Behaviors to Children with Autism* (Koegel et al., 1989) consists of a 12-week training that includes eight parent-only sessions and four parent-child sessions which, taken together, may be time- or cost-prohibitive for parents of young

children awaiting a referral, a diagnostic evaluation, or a therapy provider. Pivotal Response Training was developed for children with autism and focuses on the use of motivational strategies to improve language. Hardan et al. (2015) evaluated a parent training package based on Koegel et al. (1989) in a randomized controlled trial. The majority of parents met criteria for fidelity of implementation after the 12-week training and children in the treatment group demonstrated a greater increase in frequency of utterances than children who received psychoeducational parent training (Hardan et al., 2015).

Similarly, Ingersoll and Dvortcsak's *Teaching Social Communication* (2010) manual guides therapists in training parents to enhance their child's receptive and expressive language, play, imitation, and joint attention. The training requires 12 weeks of sessions implemented twice per week, or 24 weeks of sessions implemented once per week. An initial efficacy study of the manualized parent training found that all parents (n = 8) increased their use of the intervention techniques and 6 of 8 children improved their rate of vocalizations (Ingersoll & Wainer, 2013).

Although comprehensive parent trainings serve an important purpose, these manualized interventions may include more treatment components than necessary for young children with language delay and may be difficult for parents to access. Alternatively, a skill-focused training for parents of young children who are diagnosed or at risk for language delay would be time and cost effective in comparison to a comprehensive training.

In 2007, Smith et al. recommended a model for validation and dissemination of interventions such as IT. After the initial development and testing of IT through single-subject research, the second step is to create a manual that standardizes the intervention for the treatment to be utilized by a wider audience. Standardizing an IT training for parents of young children diagnosed with or at-risk for language delay is a necessary step toward large-scale testing.

Parent-implemented IT, if effective, could be used in a wide range of treatment scenarios: for preventative purposes among children who don't fully meet the criteria for EI, for children who may be at risk for developing a language delay (e.g., siblings of children ASD), for children awaiting a diagnosis, for supplementing delayed or non-existent EI services, and for supplementing ongoing EI services.

After creating standardized procedures for the delivery of IT, the next step in the Smith et al. (2007) model is to deliver training to a small number of subjects across settings and to assess for feasibility. Feasibility testing is an important step in validating measures of *intervention fidelity*, defined by Mowbray, Holter, Teague, and Bybee (2003) as "confirmation that the manipulation of the independent variable occurred as planned" (p. 316). Feasibility assessments can also provide information as to whether a manualized parent training of IT can be delivered consistently across sites; if it is acceptable to professionals with expertise in the procedures described in the manual; and if it is acceptable to clinicians, parents, and clients following an experience with the manualized intervention (Smith et al., 2007).

A perspective that supplements the Smith et al. (2007) recommendations for dissemination is to conduct smaller scale testing with the manualized training prior to large-scale testing (Hoagwood et al., 2014). Conducting small-scale testing will help to identify and remediate potential barriers to an effective training and assessment process before investing the time and resources necessary to complete larger scale tests of effectiveness.

Although prior studies demonstrate that the steps of IT increase mands (Hart & Risley, 1968, 1974, 1975) and that IT can be implemented by parents (Hsing-Hsiu, Wilder, & Abellon, 2011), researchers must examine additional factors when packaging a procedure for widespread dissemination. First, researchers must develop a manual that is relevant to families with differing

amount of experience with EI and ABA. One way to develop a broadly applicable manual is to study how diverse, initial users respond to the manual and to revise it based on those findings. Second, researchers must develop a manual that targets skills we can measure in a standardized fashion across children with different skill profiles and communication modalities.

A standardized mand assessment is necessary for eventual direct comparison between parent-implemented IT and other treatments used to teach novel mand forms (Critchfield, 2015). The assessment should consist of a fixed pool of items assessed per participant over time, a set number of assessment trials administered using the same procedures, and uniform response scoring. Utilizing a standardized measure of child mands in small-scale efficacy studies will provide information on the value of the assessment and may reveal necessary modifications to the administrating procedures or the measurement system.

After a standardized assessment of mands is refined through preliminary investigations, researchers can use the assessment in comprehensive or skill-focused outcome research to study functional communication as a moderator or mediator of subsequent effects (Vivanti, Prior, Williams, & Dissanayake, 2014). A standardized behavioral assessment of learning can also help mitigate the risk that different outcomes between subjects or studies is a function of differences in the corresponding measurement systems.

Prior researchers laid the groundwork for a standardized behavioral assessment that captures changes in response probability as well as mand form (e.g., child advances from saying "ball" on 80% of opportunities to saying "I want ball" on 90% of opportunities). Specifically, Hernandez, Hanley, Ingvarsson, and Tiger (2007) developed an analysis that identified participants' predominant mand form by, first, identifying reinforcing items per participant and, second, conducting repeated assessments in which the experimenter presented each item out of

the child's reach and differentially reinforced any mand form. The observed mand form was then categorized as an undesirable mand such as crying, as a single-word mand, or as a framed mand. Hernandez et al. can be extended to assess changes in manding among children with early language delays by expanding their code to include mands at a range of developmental levels (e.g., sign for more versus vocal request for more).

In summary, the time is right for development and validation of a manualized parent training of IT because: (a) early language impairment is a predictor of lower intelligence, decreased reading ability, and increased problem behavior, (b) clinician-provided early language treatment may be delayed or unavailable for many children who could benefit from early intervention, (c) early implementation of behavior analytic language treatment by parents may prevent or remediate language impairment and associated problems, and (d) a skill-focused parent IT training has yet to be developed and assessed for feasibility or efficacy.

The purpose(s) of this study are 1) for professionals to socially validate the manualized IT procedures, 2) to assess the feasibility of the manualized training of IT, 3) to examine the efficacy of the training for improving caregiver implementation of IT procedures, and 4) to examine patterns of mand acquisition in children with language delay following parent-implemented IT. In Phase 1, professionals in related fields (i.e., Board Certified Behavior Analysts [BCBAs], speech and language pathologists [SLPs], and a licensed psychologist) completed a survey to validate the manual's content. Feedback from the survey was incorporated into the manual. In Phase 2, we assessed: trainer use of the specified procedures and their skill level in implementing those procedures across groups; parent fidelity in role plays and exercises; and trainer and parent ratings of the acceptability of the training (i.e., feasibility of the manualized training). In Phase 3, we evaluated parent application of IT procedures prior to and

following the manualized parent training as well as the child's mand form prior to and following parent-implemented IT (i.e., efficacy of the manualized training).

Phase 1: Manual Development

The manualized parent training encompasses IT procedures with extensive empirical support in ABA literature (Hart & Risley, 1968, 1975; McGee, Krantz, & McClannahan, 1985). The training package includes a parent manual and accompanying presentation slides with embedded videos, diagrams, and scripts for the trainer. See Table 1 for the topics covered in each section of the manual. As recommended by Smith et al. (2007), the manual incorporates parental goals and child preferences; it allows for flexibility within procedures (e.g., prompting form, number of trials, number of sessions) while maintaining standardization of the critical IT steps. The IT procedures can be individualized to a child's form (e.g., sign language, vocal) and level (e.g., one-word or two-word mands) of communication. In addition to IT content, the manual contains examples, written exercises, and space to add child-specific procedures recommended during training. Presentation slides contain a summary of the manual's content, demonstrations (e.g., video vignettes, pictures), and prompts for the trainer to conduct role plays and exercises.

Nineteen participants, recruited based on their area(s) of expertise (i.e., manual development, verbal behavior, early intervention, IT, and parent training), completed an anonymous survey regarding the manual's content. Participants received a personal e-mail with the manual along with a link to the survey (Appendix A). Demographic data for the 19 professionals who completed the survey are listed in Appendix B. Survey questions 1-6 were intended to gather demographic and historical data about the survey responders. Questions 7-18 were included to assess the perceived usefulness and content of the manual using a 5-point Likert scale (i.e., 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1= strongly

disagree). Participants had the option to enter a rationale for each rating in a comment box below the question. The first author scored responses to the survey questions and calculated a mean score for each question. The third author also calculated the item means for each question. Interobserver agreement was calculated for the survey by dividing the total number of agreements per question by the total number of questions and multiplying by 100. An agreement was scored when both investigators recorded the same mean for each question. Agreement for the professional surveys was 100%.

All professionals responded favorably with a mean score of 4.47 for content and organization, and 4.53 for perceived usefulness on a 5-point scale (with higher scores reflecting greater satisfaction). Results for individual questions are reported in Appendix C. Several professionals provided requests for clarification of wording and suggestions for improving the manual's content; a sample of the comments is included in Appendix D. The manual was revised based on common areas of feedback as summarized in Appendix E. Overall results of the professional survey were positive and demonstrate that the manual is acceptable to people who have extensive experience delivering IT procedures.

In addition to revising the manual based on the expert survey, the investigators added a section to distinguish between contriving the opportunity to teach a mand (i.e., parent-led teaching) and capturing the opportunity to teach a mand (i.e., child-led teaching). During parent-led teaching, the preferred items are preselected based on the child's general interests and the target response is determined prior to interacting with the child. Using items that are selected and arranged by the parent may maximize learning trials for the child as well as provide the parent with multiple opportunities to practice prompting, shaping, and delivering reinforcers in a single interaction. Child-led teaching, by contrast, requires the parent to carefully observe items or

events the child wants to access as well as items or events the child wants to continue or discontinue. The parent must determine what target response to prompt based on momentary shifts in the child's behavior and the teaching context. The manualized training provides many occasions to practice and identify opportunities for both parent-led and child-led teaching.

Phase 2: Feasibility Assessment

Participants and settings

To determine the feasibility of the IT training package, trainer performance was assessed on application of the manual's procedures (adherence) and level of skill in implementing each procedure (competence); parent fidelity was assessed on responses to role plays and exercises during the training. Two trainers and eight parents participated in Phase 2. Each trainer administered two group trainings; each group consisted of two parents whose children received different types of early intervention services (either speech therapy [ST] or early intensive behavioral intervention [EIBI]). Parent demographics are described in detail in Phase 3.

The trainers were speech and language pathologists (SLPs) recruited from a school for children with ASD that provides curriculum based on the principles of ABA. See Table 2 for trainer characteristics and Appendix F for the trainer information questionnaire. Trainer 1 had 20+ years of IT and parent-training experience; Trainer 2 did not have parent training experience and she had less than 5 years of IT experience.

Procedure

Manual orientation workshop. Before delivering the training to parents, the trainers participated in a small group workshop conducted by the first author. One week prior to the workshop, the experimenters asked the trainers to review a copy of the training materials and to complete the trainer demographic survey (see Appendix G for the Pre-workshop Packet).

During the manual orientation workshop (see Appendix H), the first author provided a section-by-section description of the parent training manual and supporting materials (i.e., video vignettes, presentation slides, role play instructions) as well as modeled delivery of the training components (i.e., presented a section of the training, demonstrated all exercises and role plays). Trainers then presented a section of the training and rehearsed all role plays and exercises with the first author. The first author provided descriptive feedback or praise following each exercise, role play, and presentation. The first author rated trainer performance using a portion of The Trainer Checklist (see Appendix H) on a scale of 2 (i.e., *Goal was fully achieved)* through 0 (i.e., *Goal was not achieved).* The trainers rehearsed an activity until performance was fully achieved (i.e., score of 2) for that activity. Both trainers' performance met the mastery criterion (Trainer 1; 100%: Trainer 2; 100%) during a single, 60-min workshop.

Parent training. Following completion of the workshop, the trainers led groups of parents through the manualized training using scripted instructions, modeling, and rehearsal with feedback opportunities. Each training was 2 hr 30 min to 3 hr long and included a 10 min break. See Table 1 for the training sequence and approximate time allotment per topic.

Measurement and interobserver agreement: Feasibility.

Trainer Checklist and Parent Checklist. During each training, the first author and at least one additional trained observer scored parent and trainer performance by completing the corresponding checklist (Appendix I: Trainer Checklist, and Appendix J: Parent Checklists). The authors used the following scale developed by the RUPP Autism Network (Johnson et al., 2007); 0 = Trainer goal/Parent goal was not achieved; 1 = Trainer goal/Parent goal was partially achieved; 2 = Trainer goal/Parent goal was fully achieved. Trainer and parent ratings per each of the seven sections of the manual were totaled and converted to percentages.

The Trainer Checklist and Parent Checklist are modified versions of the fidelity checklist included in Johnson et al. (2007). Trainers were rated on measures of adherence (i.e., utilization of specified procedures) and competence (i.e., level of skill and clinical judgment demonstrated by the trainer in implementing each procedure) as defined by Perepletchikova and Kazdin (2005). Specifically, adherence measures reflect whether the trainer addressed each scheduled topic or training activity in the IT manual. Competence measures reflect the level of skill and judgement demonstrated in implementing each role play or exercise and in answering parent questions.

Given the absence of prior studies that reveal the critical components and parameters of efficacious IT, we adopted a minimum standard of 80% trainer adherence and competence to conclude the protocol was feasible. This standard is consistent with standards adopted in feasibility assessments of other skill-building protocols (e.g., Johnson et al., 2007). The 80% benchmark also reflects our assumption that the best clinical outcomes may be facilitated by trainers who follow the standard procedures except when trainee, child, or contextual factors reveal advantageous alternatives.

Experimenters rated parent fidelity (i.e., the degree to which parent responses indicated comprehension of concepts and procedures) for each section of the manual during exercises and roles plays. Trainers were instructed to provide additional feedback in response to parent errors and to give parents repeated opportunities to complete role plays until they demonstrated perfect fidelity. Experimenters then scored the parents' last response to a task or role-play; the number of attempts to mastery was also recorded. We used a minimum standard of 80% parent fidelity to determine the manual was feasible; this standard is consistent with standards used in similar parent IT research (Hsing-Hsiu, Wilder, & Abellon, 2011).

Exact count-per-trial interobserver agreement was calculated for the Trainer Checklist and the Parent Checklist by dividing the total number of agreements per section by the total number of coding opportunities within the section and multiplying by 100. An agreement was scored when both investigators recorded the same rating for each opportunity. Agreement was assessed for adherence and competence (trainers) and fidelity (parents) for 100% of the trainings and averaged 92% (range, 84% to 100%).

Trainer satisfaction surveys. After participating in the manual orientation workshop, the trainers completed a survey regarding the organization of the workshop and how prepared they were to deliver the training. The trainers completed a second survey after delivering the training to parents; they were asked to rate the usefulness of the manual, the usefulness of other components of the training (e.g., presentation slides, videos, role plays), and their confidence in training parents to use IT procedures (see Appendix K and Appendix L for the trainer surveys).

All survey items were scored on a 5-point Likert scale with higher scores reflecting greater levels of satisfaction (i.e., 5 = excellent, 4 = above average, 3 = average, 2 = below average, 1 = poor). The first author summarized responses from the trainer surveys. A mean rating for each question was calculated. The third author also calculated the means for 50% of the questions (6 out of 12). An agreement was scored when both investigators recorded the same mean for each question. Agreement was 100% for the trainer satisfaction surveys.

Results for Phase 2: Feasibility

Trainer Checklist. Table 3 displays individual trainer adherence and competence scores by section of the manual for each training group. Trainer 1 achieved 90% adherence during the first training, but she did not meet the predetermined standard of 80% competence. Trainer 1 achieved 74% competence during the first training because she failed to correctly answer all

parent questions, and she did not provide descriptive praise or feedback during some role plays. She also had a low adherence score during the final section of the training (i.e., child-led and parent-led review) because she omitted the role plays and received a rating of zero for each missed role play. She stated that because the training was running late, she did not administer the additional role-plays. During the second training, Trainer 1 performed with 96% adherence to procedures and 83% competence in skillfully delivering those procedures.

Trainer 2 met the predetermined level of 80% for competence (i.e., Training 1: 83%; Training 2: 94%) and adherence (i.e., Training 1: 96%; Training 2: 95%). Both trainers made the following competence errors: not providing descriptive praise during role plays and exercises (e.g., telling a parent "good job" but not specifying which response was good), not providing feedback for additional comments (e.g., allowing parents to continue saying more than the vocal model of the prescribed response for a given trial), and not providing additional opportunities for parents to respond with 100% fidelity following errors on role plays and exercises. Except for Trainer 1's competence score (i.e., 74%) during the first training, the trainers exceeded the minimum standard (i.e., 80%) for adherence and competence.

Parent checklist. Parents responded to the role plays and exercises with a mean of 96% fidelity (range 88-100%) across all trainings. Individual parent fidelity percentages by section of the manual are listed in Table 4. Parents from both child treatment backgrounds (i.e., ST and EIBI) scored above 80% across all sections of the manual except for one parent (Gloria) during the "review of teaching section" (i.e., 50% fidelity). Trainer 1 did not follow the manual's prescription to provide Gloria additional opportunities to correctly complete the role plays.

Trainer satisfaction survey. Trainers completed a survey immediately following the workshop and they completed a second survey after delivering the manualized parent training of

IT. Table 5 shows individual trainer data per question for the workshop survey and the training survey, respectively. Both trainers reported high satisfaction (i.e., strongly agree = 5 or agree =4) with all elements of the workshop (Trainer 1: mean = 4.7; Trainer 2: mean = 4.3) and the training (Trainer 1: mean = 5; Trainer 2: mean = 4.5).

Phase 3: Efficacy Testing

Participants and settings

We evaluated the effects of manualized training and parent-implemented IT with the eight parents who participated in Phase 2 and their children. All children were under the age of 3 years, were diagnosed with a language delay or ASD, and were receiving EI services at the time of the study. Parent and child characteristics are displayed in Table 6 and Table 7 (see Appendix M for the parent and child information questionnaire).

Four parent-child dyads were recruited from a school for children with ASD that provides Early Intensive Behavior Intervention (EIBI). The first author confirmed by parent report that these children received a diagnosis of ASD from their pediatrician or a neurologist. These children received an average of 6 hours of intensive behavior analytic services 5 days per week in their home. The mean age for the children receiving EIBI was 25.5 months (range; 23-31 months).

Four parent-child dyads were recruited from an early intervention center and the children were receiving speech therapy (ST). The first author confirmed by parent report that the children from the ST group had an expressive language delay as indicated by the child's pediatrician, SLP, or developmental psychologist. These children received 1 hr per week of individual treatment sessions provided by a SLP; these sessions occurred in the child's home. The mean age for the children receiving ST was 21.5 months (range; 18 to 26 months).

Parents from each early intervention background – either ST or EIBI – were randomly assigned to a treatment or a wait-list control group. After parents were placed in the treatment or wait-list control group, experimenters enrolled pairs of one ST parent and one EIBI parent in one of four group training dates (i.e., Treatment Group 1, Wait-List Control Group 1, Treatment Group 2, or Wait-List Control Group 2) based on individual availability to participate in 12 weeks of home visits and the 2.5-3 hr parent training event. Trainer 1 conducted the training for Treatment Group 1 and Wait-List Control Group 1; Trainer 2 conducted the training for Treatment Group 2 and Wait-List Control Group 2.

Parent trainings took place in a conference room at a school for children with autism. The trainings were staggered over a 4-week period. See Table 8 for the training schedule. The investigators conducted weekly pre- and post-training visits in each parent-child dyad's home.

Procedure

A group-comparison design (treatment versus wait-list control) with an embedded concurrent multiple-baseline design between training pairs was used to determine the effects of the manualized training on parent use of IT as well as the effects of parent-implemented IT on child mand performance. We report parent IT accuracy and child mand performance based on experimenter-developed assessments. We included children with language delay from different populations (children diagnosed with ASD who were receiving EIBI; children diagnosed with expressive language delay who were receiving ST) to a) examine the relationship between treatment background and parent implementation of IT and, b) to determine if parent-implemented IT had an effect on children from both populations.

A multiple baseline design was used to control for threats to internal validity including the influence of historical and maturational variables such as ongoing EIBI or ST treatment

sessions, supplementary parent training, trainer effects, and physiological changes associated with time. A between-groups comparison was used to study the external validity of training effects for different subjects, recruitment sites, and diagnoses (Campbell & Stanley, 1966). While training was implemented for parents in the Treatment Group, parents in the Wait-List Control Group experienced additional pre-training assessments and continued with their child's typical EI services (i.e., EIBI or ST).

Per visual inspection of the pair-by-pair results (see Figure 1 and 2), pre- and post-treatment parent IT accuracy was similar across trainers. Hereafter, in the interest of clarity, we will refer to a single Treatment Group and a single Wait-List Control Group.

Pre-training and post-training home visits. Before the first home visit, investigators e-mailed each parent and asked him or her to fill out a questionnaire (see Appendix M) that included demographic information as well as information on the child's current communication skills and past services. Experimenters also asked parents to nominate the child's five most preferred tangible and edible items. These items were included in the pre- and post-training Mand Assessments and Parent IT Assessments.

Prior to parent training, two of the authors visited the home of each parent-child dyad 2-4 times (see Table 8 for the pre-training, training, and post-training schedule). During each pre-training and post-training visit, the child participated in the Mand Assessment (Appendix N) and the parent participated in the Parent IT Assessment (Appendix O). Post-training home visits occurred 1 week, 2 weeks, and 1-month following the training. The parents also completed a satisfaction survey during the final post-training visit.

Measurement and interobserver agreement: Efficacy.

Parent IT assessment. The Parent IT Assessment consists of a parent-led and a child-led portion. For the parent-led portion of the assessment, parents were asked to teach their child to request five pieces of a pre-selected item (e.g., five pieces of popcorn, five puzzle pieces, five toy cars). Prior to each IT Assessment, the investigator assisted in portioning the preferred item, so the parent could administer five trials. Parents were instructed to "show me how you'd teach your child to request the (*item*)." Data were taken for a total of five teaching trials (e.g., five trials with one item, or five trials distributed across multiple items at the parents' discretion). Experimenters scored the occurrence (+) or nonoccurrence (-) of the following four steps: (a) arranged the environment [parent restricted access to an item and ensured child demonstrated interest by attending to the parent or item]; (b) correctly prompted the request, if applicable; (c) provided the consequence [item for correct response, no item for incorrect response]; and (d) did not deliver additional comments [i.e., any verbal behavior in addition to the specified vocal prompt, such as "What do you want?", "Say please," or "Do you want this?"]. A trial started when the parent took an item out of the container, and a trial ended when the parent gave the item to the child or placed the item out of the child's reach (e.g., put the item back in the container or held the item up again to begin another trial).

For the child-led portion of the assessment, parents were instructed to "Play with your child for 5 minutes; teach him to request items or activities that he seems to enjoy, or teach him to request removal of an item or activity that he doesn't seem to enjoy." Data were taken for 10 trials or 5 min (whichever occurred first). Experimenters scored the occurrence (+) or nonoccurrence (-) of the following four steps: (a) followed the child's lead to teach a request to access a preferred item, to continue an ongoing activity, or to remove an undesired item/activity; (b) correctly prompted the request, if applicable; (c) provided the consequence, and (d) did not

deliver additional comments. Experimenters scored each step within a trial from a video recording; this included the number of comments in addition to the prompt. A mastery criterion of 80% accuracy was established for the IT assessment based on standards used in previous parent IT research (e.g., Hsing-Hsiu, Wilder, & Abellon, 2011).

Results for the Parent IT Assessment were calculated as percentage accuracy for each teaching context (i.e., parent-led teaching, child-led teaching) per assessment. Percentage accurate implementation was calculated by dividing the number of correctly implemented parent-led or child-led steps by the total number of steps per completed trials. We also calculated percentage accuracy per step (e.g., number of correct prompts divided by total opportunities to prompt) within each assessment.

Trial-by-trial interobserver agreement was calculated across pre- and post-training Parent IT Assessment sessions by dividing the total number of trial agreements per assessment by the total number of trials per session and multiplying by 100. An agreement was scored when both investigators recorded the same score (i.e., correct or incorrect) for each trial within the session (e.g., the parent prompts correctly, and both investigators scored the response as correct). Agreement was assessed for 35% of the Parent IT Assessments across all participants and averaged 95% (range, 88% to 100%).

Child Mand Assessment. The experimenter-administered Mand Assessment consisted of three trials for each of the five parent-selected items (e.g., a small edible or toy) for a total of 15 trials per assessment. Investigators presented one item at a time within the child's field of vision, but out of the child's reach. Investigators recorded data on the child's response within the first 20 s after visual presentation of each item. Following a scoreable response (scale ranging from a score of 0 for problem behavior to a score of 13 for vocal framed mands; see Table 9),

investigators provided access to the item for 30 s or until consumed. If the child did not emit a scoreable response (e.g., turned away from the item; attempted to leave the assessment area), the investigator gave the item to the child to sample (e.g., eat or play) for 30 s and then re-presented the same item in a new trial. Non-approaches did not count toward the total of three trials for a given item. If the child did not approach the item on a second occasion in the same assessment (i.e., two trials with a score of "no opportunity"), the investigators used a parent-nominated replacement item for the current assessment and subsequent assessments. The replacement item was within the same category as the original item. This occurred once for Tate during the first baseline assessment (i.e., a musical turtle replaced a musical cube), and once for Abby during the second baseline assessment (i.e., Pop Chips replaced crackers).

For any communicative attempt unrelated to the target items (e.g., requests for "all done" or "outside"), the investigators provided descriptive praise and instructions to participate for "a few more minutes". The investigators honored the third request for termination or third attempt to escape and provided a 2-min break with access to toys or activities that were not included among the five target items. The investigators only had to provide a 2-min break for Abby and Tate on one occasion each during baseline.

Investigators collected and scored trial-by-trial data on child performance from video recordings. Each trial was coded according to the mand form scale (i.e., 0-13). Results of each assessment were summarized as high performance per item (i.e., the highest score of the three trials per item) and as percentage of prescribed mands. Prescribed mands were defined as any response that matched the mand form prescribed during manualized parent training. Non-prescribed mands were defined as any mand form other than what was prescribed during the training (e.g., specific vocal mand was prescribed, thus pointing was a non-prescribed mand). To

calculate the percentage of prescribed mands we divided the total number of mands at the prescribed level by the total number of trials with a scorable response and multiplied by 100. Investigators also recorded the occurrence and form of problem behavior (e.g., crying, whining, or yelling), if any, per trial.

In addition to assessing mands for the five prescribed items, investigators conducted a series of trials to assess for transfer of mands to two additional exemplars of each item (e.g., a different type of candy, cracker, or ball) for a total of 10 additional trials per assessment. The transfer trials were typically contiguous with assessment trials for the trained item. These trials were administered and scored during each assessment, but scores were not included in the determination of a child's high score per item.

Finally, investigators followed each post-training Mand Assessment with the opportunity to conduct "bonus mand" trials. The experimenter asked each parent if he or she taught the child mands for items beyond the five prescribed items; investigators then conducted three trials with each item reported by the parent for up to three additional items. Bonus mand procedures were identical to the Mand Assessment, however, performance on bonus mand trials was not included in the participant's high score per item or percentage of prescribed mands. Investigators also asked parents if they observed mands for any of the five prescribed items in novel settings. Investigators transcribed these responses verbatim.

Trial-by-trial interobserver agreement was calculated across pre- and post-training assessments by dividing the total number of trial agreements per assessment by the total number of trials per session and multiplying by 100. An agreement was scored when both investigators recorded the same mand form score for a trial (e.g., the child signs "more" and both investigators

score the response as 4 – non-vocal generalized mand). Agreement was assessed for 37% of Mand Assessments across all participants and averaged 92.4% (range, 80% to 100%).

Parent satisfaction surveys. Immediately following training, parents were asked to rate various elements of the manual (e.g., format, difficulty level of the content), to rate elements of the training (e.g., duration, videos, role plays, presentation format), and to rate their level of confidence using IT procedures with their child (Appendix P). One month following training, parents were asked to rate the usefulness of the training and their application of IT procedures at home (see Appendix Q). All survey items were scored on a 5-point Likert scale with higher scores reflecting greater levels of satisfaction (i.e., 5 = excellent, 4 = above average, 3 = average, 2 = below average, 1 = poor). The first author summarized responses from the parent surveys. A mean rating for each item was calculated. The third author also calculated the item means for 50% of the questions (7 out of 14). An agreement was scored when both investigators recorded the same mean for each question. Agreement was 100% for the trainer satisfaction surveys.

Results for Phase 3: Efficacy

Parent IT Assessment. Figure 1 (parent-led teaching) and Figure 2 (child-led teaching) depict Parent IT Assessment scores with ST participants in the left column and EIBI participants in the right column. Except for Liza, all parents scored below 50% accuracy during all pre-training sessions. Liza was 75% accurate for parent-led teaching and 60% accurate for child-led teaching during the final baseline, but she did not meet the pre-determined mastery criterion of 80% accuracy.

One week following manualized parent training, 6 out of 8 parents (Tim, Gloria, Annie, Sandy, Diana, Lorena) implemented both child-led and parent-led IT with increased accuracy. These parents' scores increased or remained stable for the rest of the post-training assessments,

except for Sandy (during the final parent-led assessment). Tim, Diana, and Sandy (during parent-led and child-led teaching), and Gloria (during parent-led teaching but not child-led teaching) met mastery criteria during at least one post-training session.

Results from the Parent IT Assessments conducted 1- and 2-weeks post-training revealed that multiple parents continued to emit comments in addition to the prompt (e.g., “Do you want this?”; “Say please.”) during IT trials. See Figure 3 for an example of percentage of correctly implemented IT per step for Annie and Shawn. Based on these persistent errors, the authors delivered a 15-min booster training on correct prompting during the 1-month post-training visit. The training consisted of four slides with prompting content, a review of the prompting video vignettes from the original training, and parent rehearsal of the IT steps. Parents rehearsed the IT steps with their child while the experimenter provided descriptive feedback for incorrect prompts and additional verbal behavior. Parents continued to rehearse the IT steps until they implemented all steps with 100% accuracy for three consecutive trials. Parents participated in a final Parent IT Assessment immediately after booster training to determine its effects. The sequence of the 1-month visit was as follows: Mand Assessment, Parent IT Assessment, booster training and role plays, additional Parent IT Assessment.

Liza scored near baseline levels of fidelity for child-led teaching during all but the 2-week post training assessment. Similarly, she scored within or slightly above baseline levels during the parent-led post-training assessments. Liza’s pre-training scores did not improve until after booster training.

Shawn’s parent-led teaching scores did not improve until the 1-month post-training visit. He initially improved in child-led teaching, but his performance decreased to pre-training levels during the 1-month post-training assessment. It is important to note that PECS was prescribed as

Jax's target response during parent training, but Shawn taught vocal responses and alternative augmentative communication system (e.g. iPad with TouchChat) responses during post-training assessments despite multiple prompts from the investigator to teach the prescribed response. During the first post-test assessment, Shawn reported that he preferred for his son (Jax) to practice vocal responding.

It is important to note that EIBI parent IT accuracy (right column on Table 1 and Table 2) was not as robust as ST parent IT accuracy (left column on Table 1 and Table 2). During both parent-led and child-led teaching, the ST parents demonstrated a clear effect following the manualized training with only modest effects for Lorena. Only one EIBI parent (Gloria) demonstrated a clear effect of training on both parent-led and child-led teaching.

Following the booster training (i.e., review of the prompting step and parent-child role plays) that occurred during the 1-month post-training visit, all parents except for Shawn met the mastery criterion of 80% for both parent and child-led teaching. These results demonstrate that, overall, the manualized training plus one-time booster session was effective for parents to both contrive and capture opportunities to teach mands to their children.

A between-groups effect size statistic was calculated to describe the magnitude of difference between performance of parents in the treatment group and performance of parents in the wait-list control group (see Table 4 for group assignments). The mean performance (average of child-led and parent-led IT accuracy) on the final baseline measures of the Wait-List Control Group was subtracted from the mean performance on the first post-training measures of the Treatment Group, and the resulting difference was divided by the pooled standard deviation. Cohen's effect size ($d = 1.76$) suggested a large difference in performance between the Treatment and Wait-List Control groups.

Mand assessment.

Child mand performance. Child mand performance was assessed prior to and following the manualized IT training. Figure 4 includes the high performance per item (lines) and percentage of prescribed mands per assessment (bars) for the eight children who participated. The left column depicts the children receiving EIBI and the right column depicts the children receiving ST.

Six out of eight children (Nadie, Teddy, Nate, Tate, Abby and Cali) emitted a higher percentage of prescribed mands 1-week after their parents learned to implement IT; the increase in prescribed mands maintained or increased throughout post-training assessments. Following the training, the high performance per item increased for Nadie, Tate, Nate, and Cali; their scores maintained or increased across post-training visits. One child from the EIBI background (Jax), and one child from the ST background (Theo) did not acquire prescribed mand forms or emit novel mand forms over the course of the study. Although Teddy and Abby showed an increase in prescribed mands, they did not demonstrate a clear increase in mand form when looking at high score per item.

Abby's percentage of prescribed mands increased over the course of baseline, suggesting that variables other than parent training (e.g., the assessment procedures, experimenter observation, or additional treatment) might have influenced her responding. Although Abby demonstrated a further increase in prescribed mands following the introduction of IT, her high score per item did not improve. During baseline, the majority of Abby's mands were coded as 5 (i.e., a vocal approximation of a generalized mand ["ah"]). Liza (Abby's mother) reported that she usually could not determine what Abby was requesting when she said "ah." Liza also reported that if she did not deliver the correct item, Abby would often cry or scream. Thus,

during training, Liza prescribed a point (a coding of 3) to provide Abby a way to specify what she was requesting. During post-treatment sessions, Abby learned to point as planned although her high score per item decreased because her baseline mand form scored higher on the mand form scale. By the third post-training Mand Assessment, Abby was emitting either a point or a more precise vocal approximation (i.e., “ba” for bubbles); these data align with Liza’s report that she started to teach vocal approximations after the 2-week post-training observation. Thus, the investigators scored a point as the prescribed mand during the first two post-training Mand Assessment and scored vocal approximations as the newly prescribed mand in the final post-training Mand Assessment. Vocal approximations were denoted with a stacked bar to delineate performance of the new and old prescription. Nate was originally prescribed a vocal approximation, and this was scored as the target response during the first two post-training Mand Assessments. Prior to the 1-month post-test, Nate’s mother reported that she started to train PECS as recommended by his SLP. Therefore, PECS was scored as Nate’s newly prescribed response during the final post-training assessment.

Because neither the high score per item nor the percentage prescribed data capture all the behavior that occurred during Mand Assessments, we also calculated percentage change in cumulative scores per participant (see Figure 5). Specifically, we subtracted the sum of all mand form scores in the final baseline assessment from the sum of all mand form scores in the final post-training assessment and divided the resulting difference by the baseline sum to reveal the percentage change. If a child experienced fewer post-training trials for a given item than he or she completed during baseline, we omitted those scores from the baseline total. These data provide additional evidence of change in mand form from baseline to post-training for Nate, Tate, and Cali.

As previously mentioned, we measured the occurrence of problem behavior during each trial. Nadie and Cali exhibited low levels of problem behavior across pre-training Mand Assessments (4 trials, 1 trial, respectively). Nate exhibited problem behavior in 11 (out of 15) trials during the first baseline session and nine trials during the second baseline assessment. During post-training assessments, Tate and Abby emitted one instance of problem behavior and Theo emitted four instances of problem behavior. Problem behavior consisted of "whining" or "crying" and were never sufficiently disruptive to terminate an assessment.

We calculated a between-groups effect size to describe the magnitude of difference between the occurrence of the prescribed mand response in the Treatment group and the Wait-List Control Group (see Tables 6 and 7 for the participants in the Treatment and Control group). The occurrence of prescribed mands for children in the Wait-List Control Group (last baseline measure) was subtracted from the occurrence of prescribed mands for children in the Treatment Group (first post-training measure), and the resulting sum was divided by the pooled standard deviation. Cohen's effect size indicated a large difference in the performance between the children in the Wait-List Control and the Treatment Group *(d = 2.12).*

Transfer trials. Participants (Nadie, Teddy, Nate, Tate, Abby, and Cali) who emitted more prescribed mands following training continued to do so when the experimenter presented untrained exemplars of the target item on contiguous trials. It is important to note that assessment of the additional exemplars immediately followed testing of the corresponding target item; this may be why responding was similar to target items across all participants. During the 1-month post-treatment visit, 6 of 8 parents anecdotally reported that prescribed mands occurred across settings (e.g., EI playgroup, daycare). Parents of Jax and Theo, who did not demonstrate effects of parent-implemented IT, reported that mands were no more likely to occur across settings.

Bonus mand trials. Following parent training, 5 out of 8 parents reported teaching their children mands beyond the five prescribed items. Children (Teddy, Nate, Tate, Theo, and Abby) for whom reported bonus mands were verified by the experimenter all emitted a prescribed or more complex mand form for at least one "bonus" item. For example, parents reported, and experimenters verified that Tate emitted a generalized vocal mand for "stroller" and that Nate emitted non-vocal generalized mands (e.g., sign for more). These results should be interpreted with caution as we did not collect baseline data for bonus mand items.

Parent satisfaction surveys. Individual parent acceptability ratings for both surveys are listed in Table 10. All parents completed the survey immediately following training and again 1-month after training. Immediately following the training, all parents reported they would recommend the training to other parents. The majority of parents reported high satisfaction ("strongly agree" or "agree") with all elements of the manual. One parent reported moderate satisfaction (neither agree or disagree) with the length of the training, the role plays, and his or her confidence in using IT. On the 1-month post-training survey, all parents reported frequent use of IT, confidence in using IT procedures, and IT procedures having a positive impact on their child's ability to request. As of 1-month post-training, parents continued to report that they would recommend the training to other parents.

General Discussion

We sought to determine the feasibility and efficacy of a manualized IT training for parents of young children with language delay. Feasibility assessments demonstrated that the manualized IT training occurred as planned when implemented by two trainers with different levels of parent training and IT experience; both trainers met or exceeded the benchmark for adherence and competence scores (except for Trainer 1's first competence score). Trainers were

instructed to address all content included in the notes section of each slide, but were not required to read the script verbatim. Both trainers added anecdotal stories to supplement IT content for certain parents; this did not adversely affect their fidelity scores.

As previously mentioned, both trainers made similar errors. To reduce or eliminate these errors, future trainer workshops should include opportunities for trainers to rehearse giving descriptive praise, and several opportunities for trainers to generate novel role plays until parents achieve 100% fidelity. Multiple parents were given feedback on incorrect role play performance, but this was not followed by an opportunity to correctly complete each role play. A new time estimate should include an extension for additional parent questions and repeated active response opportunities.

During role plays, neither trainer corrected instances of parents emitting comments in addition to the prompt. The person conducting the trainer workshop should provide examples of additional comments, and opportunities to rehearse providing feedback to parents on this error. The prompting section of the training should include examples of additional comments as well as opportunity to detect additional comments in a video vignette.

This preliminary study revealed opportunities for the next iteration of the manual to provide more precise support for parents of children who use PECS. Shawn completed all role plays but did so without being taught which form of PECS (i.e., generalized mand [more] versus specific mand [apple]) to use. The manual simply includes instruction to prescribe PECS if the child is currently using it with their EI provider. By contrast for vocal children, the manual guides trainers to prescribe a vocal approximation of a generalized mand (e.g., “ma” for more) or a precise specific mand (e.g., apple) depending on that child’s baseline performance. Future versions of the manual should include instructions for the examiner to prescribe a precise form of

PECS based on the child's current mand form; this will ensure that parents practice and receive feedback on the PECS form prescribed for their child.

Our aim is for trainers with a range of occupations to effectively implement the manualized training with parents of children from a variety of diagnostic and treatment histories. Phase 2 of this investigation demonstrated that SLPs with some background in IT but no background in behavioral skills training can adhere to the manualized training and deliver it with competence. Future testing of the manualized training should go beyond SLPs to determine the range of professionals who can accurately deliver the training (e.g., early childhood educators, Board Certified Assistant Behavior Analysts, speech-language pathology assistants). Disseminating the manual to professionals who may be more accessible to parents of young children, such as early childhood educators, would be especially valuable.

Overall, parents achieved high fidelity scores demonstrating that the manualized training was sufficient in training parents with different EI backgrounds to respond correctly to role plays and exercises. Because we also intend for this training to be used with parents of children awaiting or not eligible for a diagnosis, future testing should include families with no history of EI services.

Efficacy data revealed that the training had less impact on IT fidelity for parents of children diagnosed with autism who had extensive exposure to EIBI. Parents of children diagnosed with language delay who were receiving ST demonstrated more favorable results. While most ST parents improved their implementation of both parent-led and child-led IT following the manualized training, the majority of EIBI parents did not improve until after the booster training. Shawn's (EIBI) child-led teaching never reached the mastery criterion despite booster training (i.e., peak performance of 65% fidelity).

One question that remains unanswered by our data is the impact of child problem behavior on parents' implementation of IT (i.e., child effects), but a closer examination of parent report suggests that child problem behavior may have impacted parents' use of IT. As described in a review by Stocco and Thompson (2015), parents of children with a history of problem behavior may avoid the occurrence of problem behavior by allowing free access to preferred items or by providing access before the child emits an appropriate response. Conversely, parents of children who rarely engage in problem behavior following denied access may be more likely to present learning opportunities to the child (Carr, Taylor, & Robinson, 1991). Tim and Gloria reported that their children rarely engaged in problem behavior which might explain why they exhibited positive change in implementing IT despite being in the group with the lowest trainer fidelity. Lorena and Liza – both of whom reported that their child frequently engaged in problem behavior following denied access – exhibited no change in post-training IT accuracy despite being in a group with high trainer fidelity.

Although we directly measured problem behavior during the Mand Assessment, aspects of our procedures likely minimized its occurrence. For example, we provided the item to the child immediately after any scoreable response from the mand form scale. Four of the children gained immediate access to the preferred item despite emitting low-scoring responses during baseline (i.e., looked at an item for 3 s, grabbed for the item). We predict based on parent reports that we would have obtained a more ecologically valid sample of problem behavior had we delayed delivery of the item for low-scoring mands on a subset of trials.

The manualized parent training may benefit from the addition of a module on managing problem behavior for parents of children who reliably cry, flop, aggress, or self-injure following denied access. Collecting information from parents on the intensity and typical context of their

child's problem behavior would guide trainers about the necessity of supplemental problem behavior content. As suggested by Stocco and Thompson (2015), training materials might include video clips of correctly implemented IT occurring while a child engages in problem behavior and opportunities to role play IT with the trainer during mock problem behavior scenarios. If time and resources allow, a parent-child IT session with feedback should also follow the training. Parent survey results from this study endorsed the utility of the parent-child role plays; two parents included comments in the open-ended portion of the survey stating that parent-child role plays were helpful in learning IT, and they recommended additional direct instruction opportunities with their child present.

Where child problem behavior is likely, future trainers should consider prescribing an initial mand form that can be physically prompted. A more efficient topography may increase the likelihood that the child contacts reinforcement for appropriate mands, thus preventing problem behavior (Horner & Day, 1991). For example, if the prescribed mand is a one-word vocal response and the child isn't consistently responding to a vocal prompt (e.g., repeating "cookie"), the trainer should prescribe a mand form that can be physically prompted (e.g., a manual sign).

Positive results for prescribed mand acquisition were demonstrated with 3 out of 4 children diagnosed with expressive language delay (i.e., ST group) and 3 out of 4 children diagnosed with autism (i.e., EIBI group). One potential explanation for lack of change in mands for Jax (EIBI) and Theo (ST) is their parents' low procedural fidelity. Lorena, Theo's mother, performed only slightly above baseline for all but one child-led assessment after parent training. In similar fashion, Shawn (Jax's father) met the mastery criterion during just one parent-led IT assessment after parent training. One partial explanation for Shawn's performance may be that the trainer did not prescribe a sufficiently precise form of PECS to target with Jax (e.g.,

generalized mand [more], or specific mand [apple]). Both Shawn's (parent-led teaching) and Lorena's (child-led and parent-led teaching) IT accuracy improved to mastery level following the booster training.

The Mand Assessment that we adapted from Hernandez, Hanley, Ingvarsson, and Tiger (2007) provided a uniform method of assessing and coding each child's mand form prior to and following parent-implemented IT. A fine grain measure of behavior must be developed to objectively quantify treatment effects and, eventually, to identify moderators of those effects (Vivanti, Prior, Williams, & Dissanayake, 2014); the assessment described in this study offers one such fine grain behavioral measure. It is our hope that researchers will use and improve upon the Mand Assessment in future evaluations of parent-implemented IT as well as with other treatments aimed at teaching novel mand forms.

As mentioned above, multiple students' baseline mands took the low-scoring form of looking at the item for at least 3 s. While observing the experimenter implement the Mand Assessment, two parents commented that their child "can do better." Modified assessment procedures may reveal a more valid sample of future participants' skills. For example, parents could implement a subset of trials to indicate whether the examiner is a less effective source of instructional control and motivation for the child. The examiner could also conduct a subset of trials on which they delay delivering the item by several seconds if the child's mands are less complex than the typical mand form reported by caregiver.

We also recommend modifying the Mand Assessment to provide more useful information regarding generalization of prescribed mands. In this study, we attempted to assess for generalization by testing additional exemplars of each target item. Assessing additional exemplars immediately after reinforcing mands for the corresponding item from training,

however, resulted in consistent performance across efficacy and generalization trials. A more accurate test of generalization would be to administer additional exemplar trials independent of the target item trials.

Researchers will be in a better position to interpret differential outcomes of mand training with a standardized Mand Assessment. As demonstrated by the different magnitudes of change in children who had positive results for prescribed mand acquisition, response to early intervention programs is variable. For practitioners to provide a young child with the most effective treatment at this critical time in their development, we must determine factors such as treatment background and diagnosis related to positive versus poor functional communication treatment outcomes (Vivanti, Prior, Williams, & Dissanayake, 2014).

Having a code for each mand form allowed us to measure change in both the complexity of mands as well as the percentage of prescribed mands. For the majority of children, the mand should be prescribed according to the Developmental Sequence of Mands Table, but the more functional mand for some children will be coded at a lower developmental level than their baseline mand form. During training parents learned to use their child's baseline mand form to determine the mand to teach their child (prescribed mand). The manual includes a table that shows a potential developmental progression of mands with rationale as to why to consider one topography rather than another (PECS versus sign). Abby's results highlight the importance of individualization when selecting a mand form; the lower-level mand (i.e., point) was more functional for Abby than the higher level mand form (i.e., vocal approximation) she was using during baseline. Measuring the percentage of prescribed mands prior to and following the training provides a way to show progress for children who are not prescribed a more developmentally complex response, or for children who need considerable instruction to advance

from one mand form on the rating scale to the next. For example, compared to moving from a point to a generalized sign (e.g., more), moving from a vocal approximation to a precise vocal mand requires more precise and varied prompting from the parent, and a wider range of responses from the child.

We employed a small group comparison design to test if any differences in Mand Assessment and Parent IT Assessment performance were due to variables other than parent-implemented IT (e.g., ongoing EI services, physiological changes). Our results suggest that changes in parent and child performance can be attributed to training and not to additional EI exposure or to maturation. Readers should note that the two non-responders (Jax and Theo) – although their parents were trained by different SLPs – were randomly assigned to the Wait-List Control Group. Comparing the last baseline measure of the treatment group (percentage of mands at the prescribed level) to the first post-training measure of the control group reveals a lower effect size (d = .72).

A limitation to the study is that we did not obtain long-term maintenance data on parent accuracy of IT procedures or child mands. Many parents did not implement IT with full fidelity until after the booster training (final post-training IT Assessment). Additional assessments are necessary to determine whether mands maintained at the prescribed level, and to determine whether parents' mastery-level IT produced further improvements in child performance.

We packaged an effective behavior analytic treatment to increase mands with the goal of disseminating the intervention to a wider audience. As recommended by Hoagwood et al. (2014), we conducted a small-scale evaluation of the manualized training. Results of efficacy testing allowed us to identify useful opportunities for modification to the workshop and to the

training, and to demonstrate favorable results of parent-implemented IT following a one-time manualized training.

It is our hope that this brief and portable training will be applied with parents of children at risk for language delay, children diagnosed with a language delay, and children awaiting further diagnostic evaluation. Intervening early on language delay is critical, and parent-implemented IT is a time and cost-effective way to proceed. There are several reasons a diagnosis or therapy is delayed, but skill-focused training such as the manualized package described here can be used in the interim or in addition to EI services. Given our findings, we recommend revision of the manual and further small-scale efficacy testing to optimize the effects of parent-implemented IT on child mand acquisition as a step toward widespread dissemination of this behavior-analytic technology.

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Table 1

Topics Covered in the Manualized Parent Training Program

Section	Description	Time per topic
Introduction to the training	Incidental teaching background	5 min
	Intended users of the training	5 min
	Potential benefits of IT	5 min
	Format of the manual	5 min
Overview and goals	General content of the manual	5 min
Preparing for IT	Determining preferred items	5 min
	Determining communication type	5 min
	Determining prompting type	5 min
	Determining acceptable and unacceptable approximations	5 min
	Shaping responses	5 min
Parent-led teaching	A description of the four steps of parent-led IT	
	Step 1: Increasing the child's motivation to request	10 min
	Step 2: Confirming the child is interested in the item	10 min
	Step 3: Prompting the request	10 min
	Step 4: Giving the child the requested item	10 min
Child-led teaching	A description of the three steps of child-led IT	
	Step 1: Waiting for the child to show interest in an item	5 min
	Step 2: Prompting the request	5 min
	Step 3: Giving the child the requested item	5 min
	Suggestions for natural IT opportunities	5 min
Adjusting teaching	Adjusting IT based on the child's performance	5 min
	Suggestions for expanding on mastered requests	5 min
Frequently asked questions and problem behavior	Using IT to teach other skills	5 min
	How to prevent and manage problem behavior	5min
	Teaching multiple requests at once	5 min
	When to stop honoring all requests	5 min
Review of teaching types	Review of parent and child-led teaching	5 min
	Parent-led role plays	5 min
	Child-led role plays	5 min
Total time		160 min

Table 2

Trainer Characteristics	*Trainer 1*	*Trainer 2*
Highest level of education	M.S.	M.S.
Number of years conducting parent training	10+	0
Number of years using incidental teaching	1-5	1-5
Number of years working with children with ASD	15+	5-10
Number of years working with children with a language delay (without a diagnosis of ASD)	15+	1-5

Table 3

Percentage Training Content Delivered Correctly by Section

Section	Treatment Group			
	Trainer 1		Trainer 2	
	Adherence	Competence	Adherence	Competence
Introduction to the manual	100%	N/A	100%	N/A
Training overview and goals	100%	N/A	100%	N/A
Preparing to teach	87%	86%	95%	82%
Parent-led teaching	96%	75%	92%	84%
Child-led teaching	100%	78%	100%	84%
Adjusting teaching	100%	50%	100%	85%
Frequently asked questions and problem behavior scenarios	100%	83%	100%	67%
Child and parent-led review	43%	N/A	100%	89%
Total	90%	74%	98%	82%
Section	Wait-List Control Group			
	Trainer 1		Trainer 2	
	Adherence	Competence	Adherence	Competence
Introduction to the manual	90%	N/A	100%	N/A
Training overview and goals	100%	N/A	100%	N/A
Preparing to teach	95%	95%	100%	96%
Parent-led teaching	93%	87%	95%	97%
Child-led teaching	94%	81%	100%	90%
Adjusting teaching	100%	84%	100%	100%
Frequently asked questions and problem behavior scenarios	100%	67%	100%	87%
Child and parent-led review	100%	83%	67%	94%
Total	96%	83%	95%	94%

Table 4

Parent Percentage Fidelity by Section

	Trainer 1: Treatment Group	
Section	Tim (ST)	Gloria (EIBI)
Preparing to teach	89%	100%
Parent-led teaching	100%	90%
Child-led teaching	83%	90%
Adjusting teaching	N/A	100%
Problem behavior	100%	100%
Review of teaching	100%	50%
Total	94%	88%
	Trainer 1: Wait-List Control Group	
Section	Diana (ST)	Shawn (EIBI)
Preparing to teach	94%	100%
Parent-led teaching	100%	100%
Child-led teaching	100%	93%
Adjusting teaching	100%	100%
Problem behavior	100%	100%
Review of teaching	100%	100%
Total	99%	98%
	Trainer 2: Treatment Group	
Section	Annie (ST)	Sandy (EIBI)
Preparing to teach	100%	100%
Parent-led teaching	85%	81%
Child-led teaching	100%	92%
Adjusting teaching	100%	100%
Problem behavior	100%	100%
Review of teaching	95%	100%
Total	97%	96%
	Trainer 2: Wait-List Control Group	
Section	Lorena (ST)	Liza (EIBI)
Preparing to teach	100%	100%
Parent-led teaching	100%	100%
Child-led teaching	100%	88%
Adjusting teaching	100%	100%
Problem behavior	100%	100%
Review of teaching	100%	100%
Total	100%	98%

Table 5

Trainer Satisfaction Ratings of the Manualized Parent Training of IT

	Trainer 1	Trainer 2
Elements of the IT training (1-5 rating)	Rating[1]	Rating[1]
Workshop		
Confidence in training parents to use IT after reviewing materials	5.0	5.0
Organization of the workshop	4.0	4.0
Content of the workshop	5.0	4.0
Mean workshop satisfaction score	4.7	4.3
Training		
Format of the manual	5.0	4.0
Content of manual	5.0	4.0
Power point	5.0	5.0
Video vignettes	5.0	4.0
Role plays	5.0	4.0
Recommend training to other trainers	5.0	5.0
Understandability for parents	5.0	5.0
Confidence in training parents after reviewing materials	5.0	5.0
Adequacy of the workshop	5.0	5.0
Mean workshop satisfaction score	5.0	4.5

[1]higher scores reflected greater satisfaction.

Table 6

Parent and Child Demographics for Trainer 1's Groups

Parent-Child Dyads in Treatment Group 1

ST Parent (Tim)		ST Child (Nadie)	
Age (years)	26-40	Age (months)	22
Gender	Male	Diagnosis	Language Delay
Highest level of education	Bachelor's degree	Type of services received	Speech therapy
Hours of parent training	0	Hours per week of services	1
EIBI Parent (Gloria)		**EIBI Child (Teddy)**	
Age (years)	26-40	Age (months)	31 months
Gender	Female	Diagnosis	ASD
Highest level of education	Bachelor's degree	Type of services received	ABA
Hours of parent training	5-9	Hours per week of services	28

Parent-Child Dyads in Wait-List Control Group 1

ST Parent (Diana)		ST Child (Cali)	
Age (years)	26-40	Age (months)	26
Gender	Female	Diagnosis	Language Delay
Highest level of education	Some college	Type of services received	Speech therapy
Hours of parent training	0	Hours per week of services	1
EIBI Parent (Shawn)		**EIBI Child (Jax)**	
Age (years)	26-40	Age (months)	24
Gender	Male	Diagnosis	ASD
Highest level of education	Bachelor's degree	Type of services received	ABA
Hours of parent training	0	Hours per week of services	28

Table 7

Parent and Child Demographics for Trainer 2's Groups

Parent-Child Dyads in Treatment Group 2			
ST Parent (Annie)		ST Child (Nate)	
Age (years)	26-40	Age (months)	20
Gender	Female	Diagnosis	Language Delay
Highest level of education	Bachelor's degree	Type of services received	Speech therapy
Hours of parent training	0	Hours per week of services	1
EIBI Parent (Sandy)		EIBI Child (Tate)	
Age (years)	26-40	Age (months)	23
Gender	Female	Diagnosis	ASD
Highest level of education	Master's degree	Type of services received	ABA
Hours of parent training	20-25	Hours per week of services	28
Parent-Child Dyads in Wait-List Control Group 2			
ST Parent (Lorena)		ST Child (Theo)	
Age (years)	26-40	Age (months)	18
Gender	Female	Diagnosis	Language Delay
Highest level of education	Master's degree	Type of services received	Speech therapy
Hours of parent training	0	Hours per week of services	1
EIBI Parent (Liza)		EIBI Child (Abby)	
Age (years)	26-40	Age (months)	24
Gender	Female	Diagnoses	ASD
Highest level of education	Master's degree	Type of services received	ABA
Hours of parent training	0	Hours per week of services	28

Table 8

Pre-training, Training, and Post-training Schedule

	Trainer 1 Groups			Trainer 2 Groups	
Week	Treatment 1	Wait-List Control 1		Treatment 2	Wait-List Control 2
1	Baseline x2	Baseline		Baseline	Baseline
2	Training	Baseline		Baseline	Baseline
3	Post training	Baseline		Training	Baseline
4	Post training	Training		Post training	Baseline
5	-	Post training		Post training	Training
6	-	Post training		-	Post training
7	-	-		-	Post training
8	Post training	-		-	-
9	-	-		Post training	-
10	-	Post training		-	-
11	-	-		-	Post training

Table 9

Mand From Scale

Mand Score	Operational Definition	Example
No opportunity	Score for non-approach or N/O for third trial if first two trials scored 0 for an item	1. Crying: 0 2. Crying: 0 3. No opportunity
0C	A response other than a mand that may be in compliance with another program	Gross motor imitation or vocalized "yes"
0	Problem behavior or whine	Whine without attempt to reach for item, aggression, or self-injury
1	Non-vocal or vocal response with problem behavior	Whined while vocalized "more", or looked at item for more than 3 s while crying
2	Looking for more than 3 s, or grabbing towards the item without problem behavior	Looked at toy train for more than 3 s
3	Pointing to the item	Point to the item
4	Non-vocal generalized mand	Sign, modified sign, or PECS
5	Vocal approximation of generalized mand	Approximation of "more"
6	Precise vocal generalized mand	"More" or "help"
7	Non-vocal approximation of specific mand	Modified sign for cracker
8	Vocal approximation of specific mand	"Buh" for bubbles or "cah" for car
9	Precise non-vocal specific mand	PECS for toy truck, or sign for candy
10	Precise vocal specific mand	"Cracker"
11	Non-vocal, framed or elaborated mand	PECS for "I want juice"
12	Vocal approximation of framed or elaborated mand	"Eh wah ookie"
13	Vocal, framed or elaborated mand, or mand with social niceties	"Orange cracker," more, please," "more grapes," or "I want puzzle."

Table 10

Parent Satisfaction Ratings Following Manualized Parent Training of IT

	Immediately following IT training	
Elements of IT training (1-5 rating)	*Mean ± SD*	*% of Parents Who Responded*
Recommend training	4.75 ± .46	100
Content of manual	4.87 ± .35	100
Length of training	4.5 ± .75	100
Video vignettes	4.5 ± .5	100
Role plays	4.25 ± .7	100
Format of manual	4.5 ± .5	100
Confidence in using IT	4.25 ± .62	100
Content easy to understand	4.5 ± .5	100
	1-month following IT training	
Elements of IT training (1-5 rating)	*Mean ± SD*	*% of Parents Who Responded*
Use of IT following training	4.5 ± .5	100
Recommend training to other parents	5.0 ± .0	100
Confidence using IT	4.5 ± .5	100
Positive impact on child's use of requests	5.0 ± .4	100
Frequency of use of IT	4.71 ± .76	100

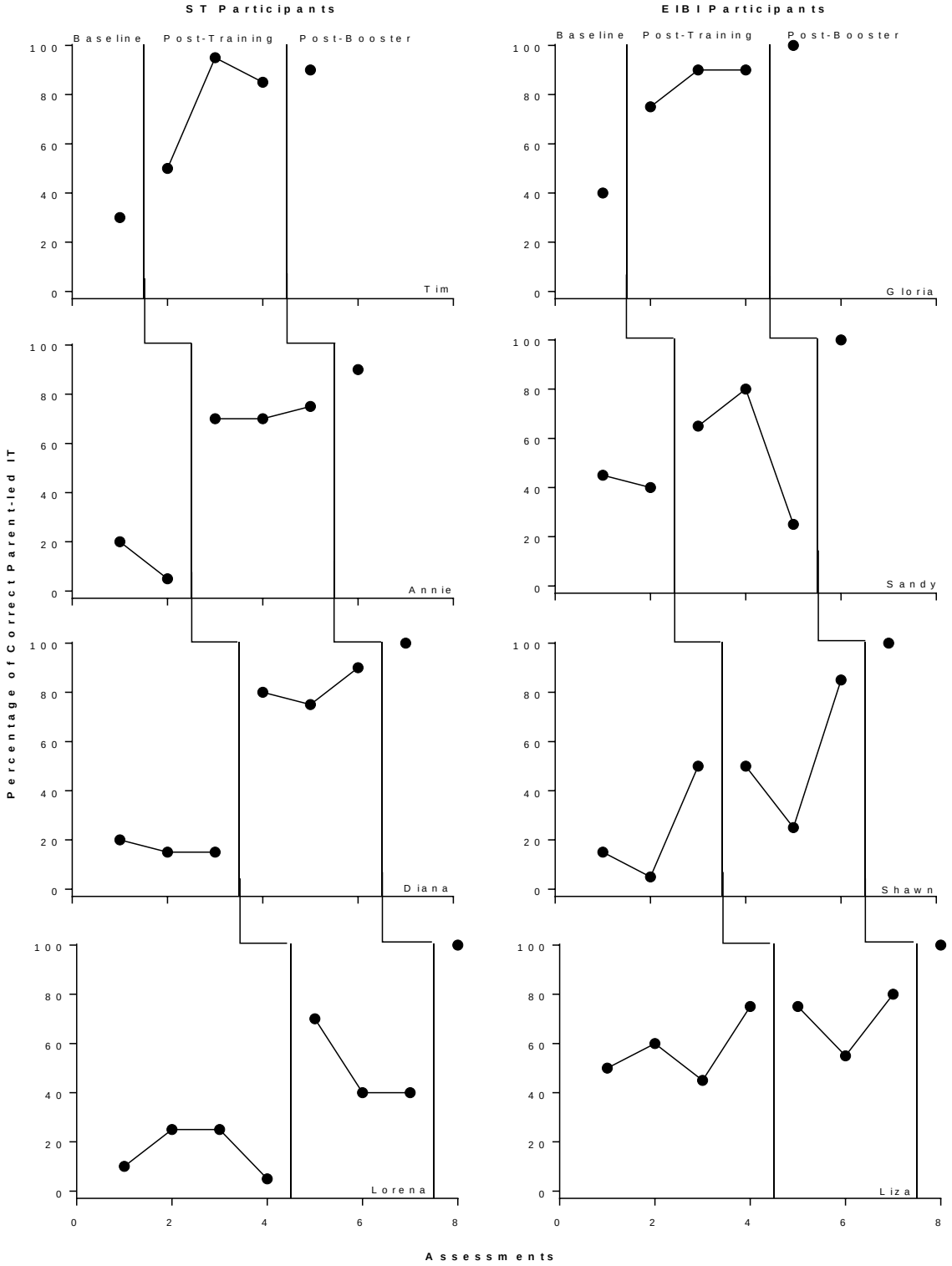

Figure 1: The left panel (ST group) and right panel (EIBI group) depict the percentage of parent-led incidental teaching steps correctly implemented across all assessments. ST = Speech Therapy background; EIBI =Early Intensive Behavioral Intervention background.

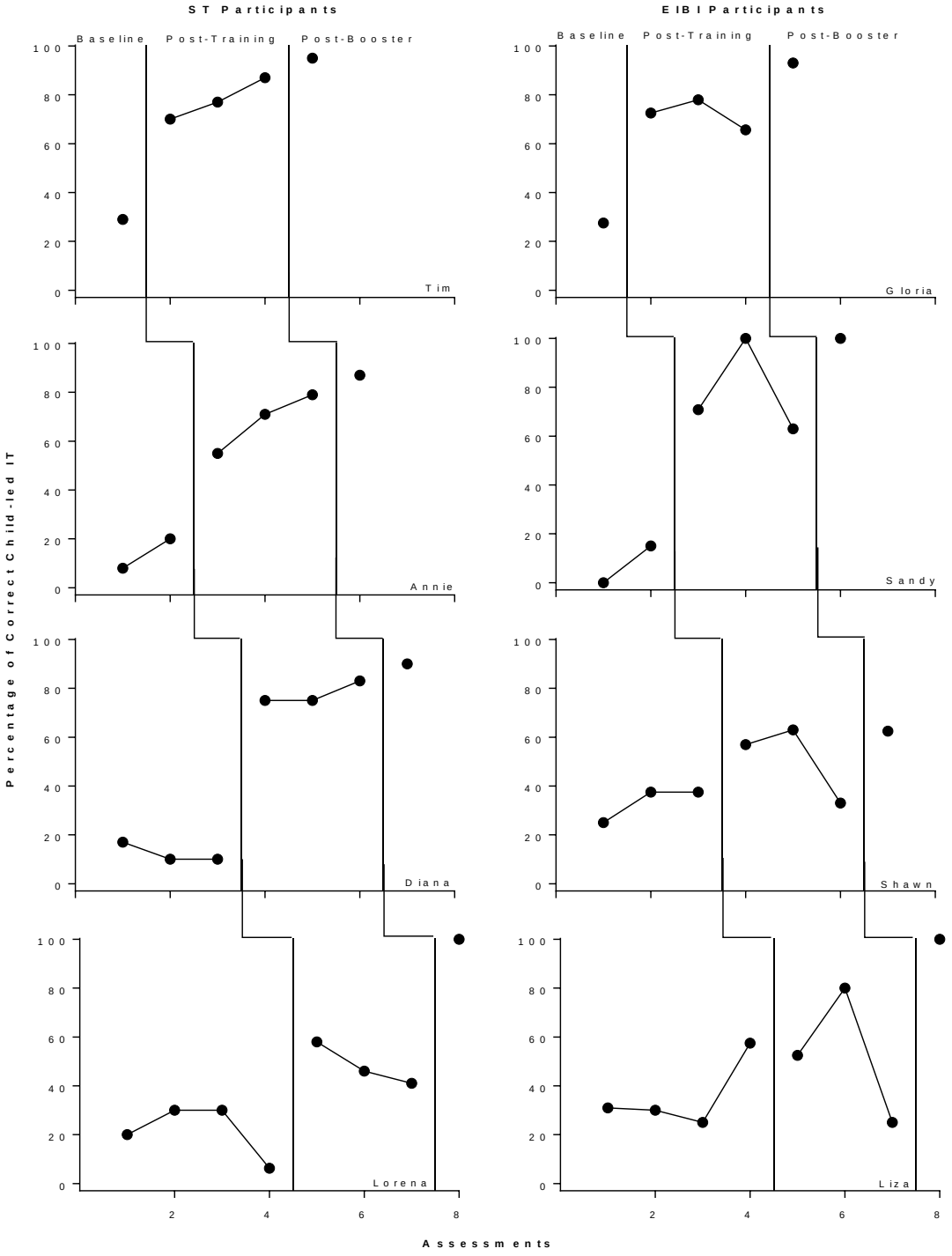

Figure 2: The left panel (ST group) and right panel (EIBI group) depict the percentage of child-led incidental teaching steps correctly implemented across all assessments. ST = Speech Therapy background; EIBI = Early Intensive Behavioral Intervention background.

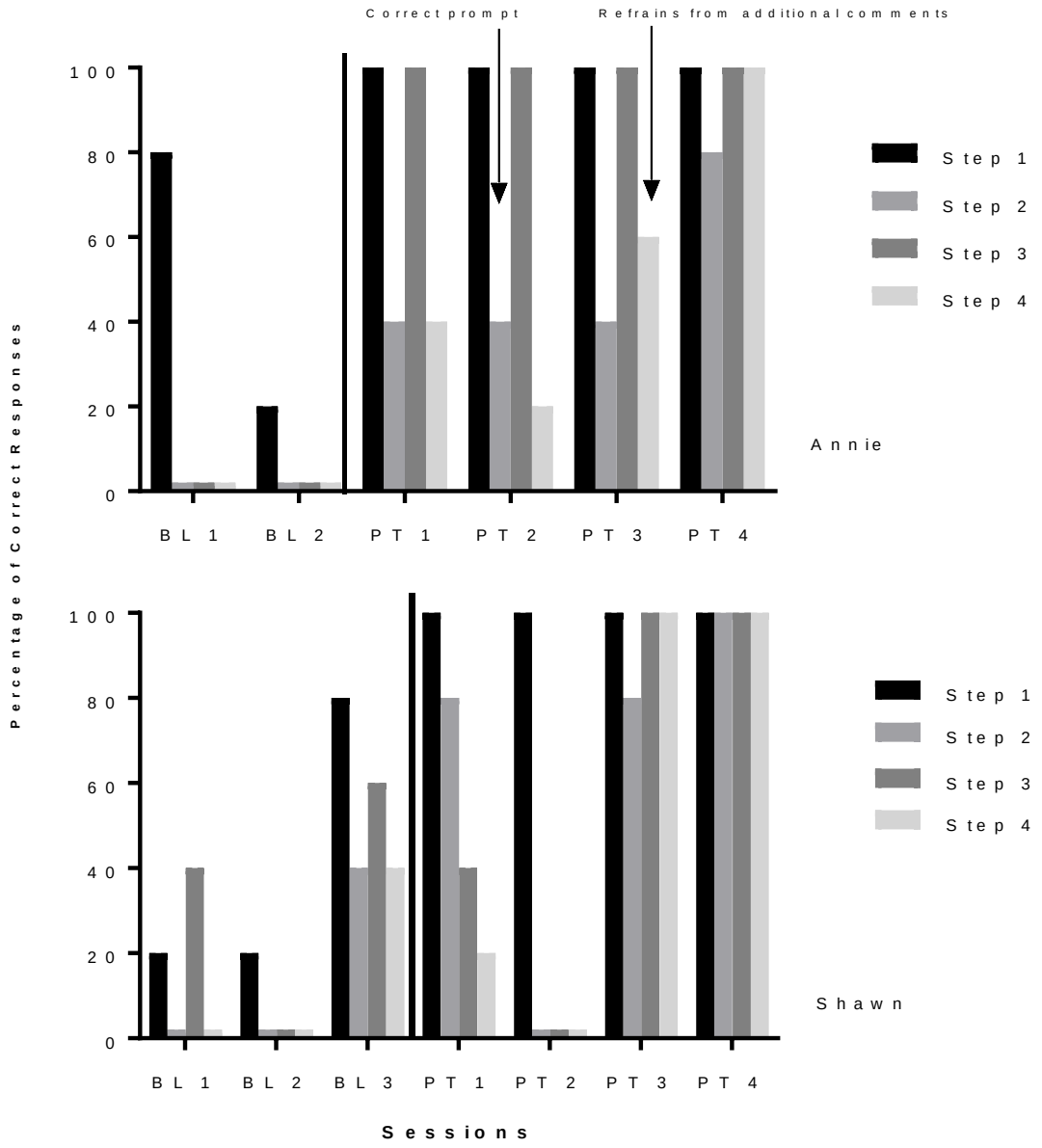

Figure 3: Percentage of correct responses per IT step for Annie (top) and Shawn (bottom) for parent-led teaching. Step 1: arranged the environment. Step 2: correctly prompted the response. Step 3: provided the consequence. Step 4: did not deliver extraneous prompts. BL = Baseline; PT = Post-training.

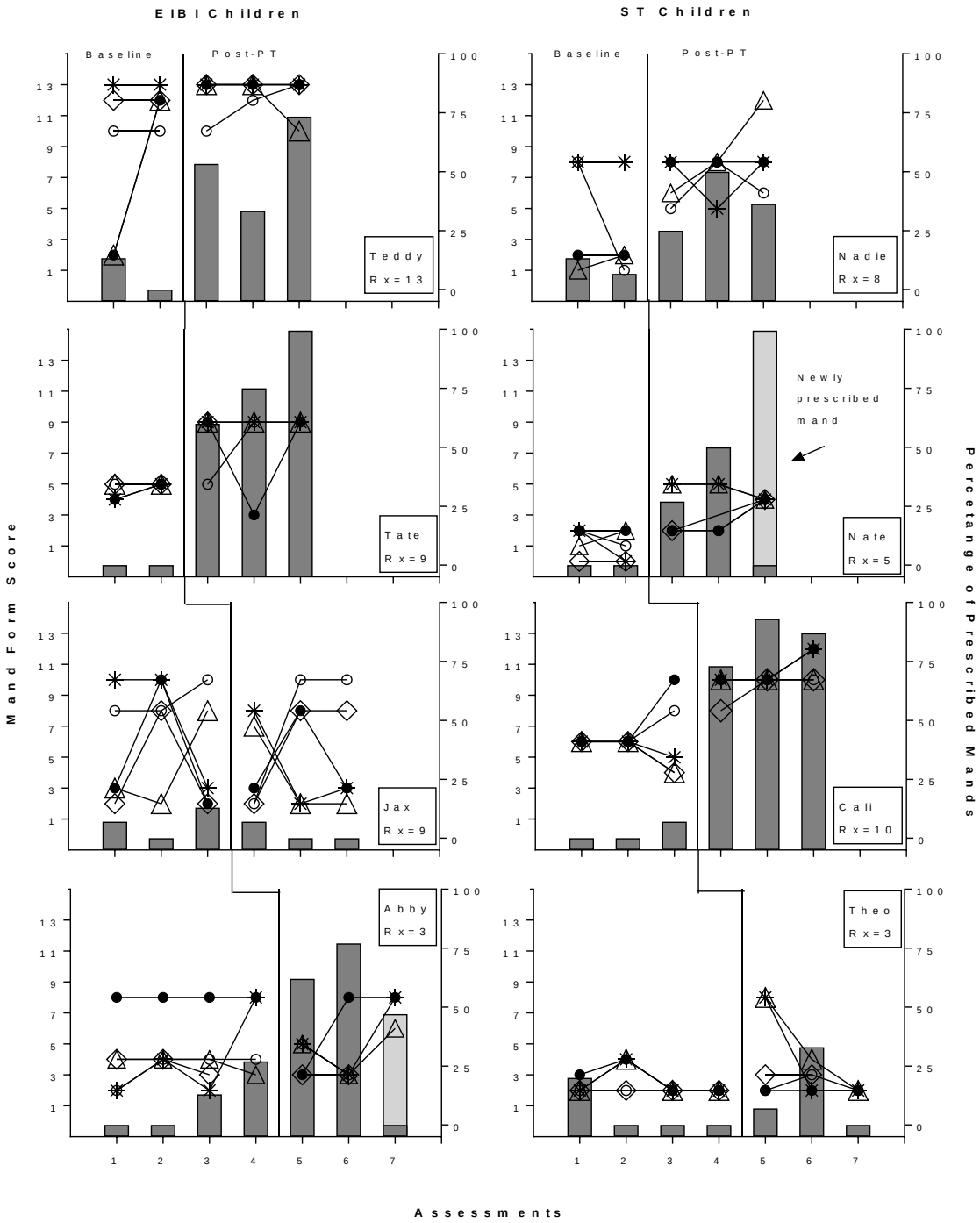

Figure 4: The left panel (ST group) and right panel (EIBI group) depict detailed results of the mand assessment. Lines represent high mand form score per item within each assessment. Bars represent percentage of prescribed mands per assessment. Stacked bars represent newly prescribed mands. BL = baseline, PT = parent-training, MT = maintenance, Rx = prescribed response, 13 = vocal framed mand, 10 = precise vocal specific mand, 9 = PECS, 8 = vocal approximation of specific mand, 5 = vocal approximation of generalized mand, 3 = point.

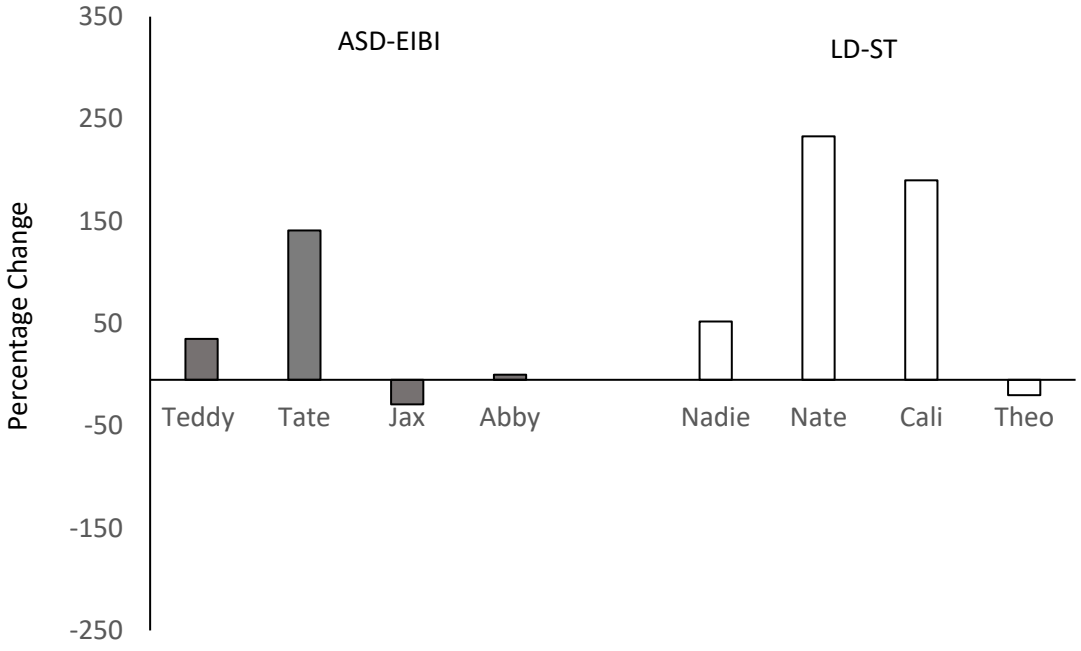

Figure 5: Percentage change in mand score (all trials per item) from last baseline to last post-test for each child. ASD-EIBI = autism spectrum disorder - early intensive behavioral intervention, LD-ST = language delay - speech therapy.

Appendix A

Incidental teaching (IT) parent training manual expert validation survey

Personal information					
Please describe the incidental teaching (IT) steps you have used in your practice.					
What is your highest degree earned?	Bachelor's	Master's	Ph.D.	Other	
Do you currently hold a certification or license (e.g., CCC-SLP, BCBA, Licensed Psychologist) in any field? (Please specify)					
How many years have you been working with children with language disorders (including children with a diagnosis of autism)?	0-4 years	5-9 years	10-20 years	21-30 years	31-50(+) years
How many years have you been using IT procedures?	0-4 years	5-9 years	10-20 years	21-30 years	31-50(+) years
With what age group (s) have you used IT procedures? *(Check all that apply)*	0-4 years	5-9 years	10-20 years	21-30 years	31-50 (+) years
With what diagnoses have you used IT procedures? *(Check all that apply)*	Autism	Language delay			
Other diagnoses not listed:					
Manual information					
The manual is organized in the most effective manner.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

Additional comments:					
The content of the manual is relevant and appropriate (e.g., technical terms are well defined) to parents using IT for the first time.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The content of the manual represents evidenced-based practice for delivering IT.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The tables are useful for helping parents make decisions.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The forms (i.e., Your Child's Communication Profile, IT record) are useful for helping parents track their child's progress.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The *Question and Answer* section is relevant to parents using IT for the first time.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The answers in the *Question and Answer* section are clear and complete.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:					
The manual could be directly disseminated to	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

parents (i.e., without the training) as a stand-alone resource.						
Additional comments:						
The preference assessment is a necessary component of this training.	Strongly agree		Agree	Neither agree nor disagree	Disagree	Strongly disagree
Additional comments:						
Who should be qualified to give this training? (*Check all that apply)*	BCBAs	BCaBA's	SLPs	SLPAs	Special educators	Para-professionals
Other professionals not listed:						
Is IT the best term to describe the procedures in this manual?	Strongly agree		Agree	Neither agree nor disagree	Disagree	Strongly disagree
If you disagree, what other term would be more appropriate?						
Are there any specific items that are MISSING from the manual or with which you DISAGREE? (Please explain)						

Appendix B

Demographics of Respondents to the Expert Validation Survey

Mean number of years working with children with language disorders (with and without a diagnosis of ASD)	21.3 (SD = 9)
Mean number of years using IT procedures	19.3 (SD = 9)

	N
Highest degree earned	
Master's	15
Ph.D.	4
Certifications	
Licensed psychologist	1
BCBA	12
CCC-SLP	8
Populations served with IT	
Autism	19
Language delay	7
Intellectual disability	1
Down syndrome	2
Other syndromes or disorders	4
Age group(s) served with IT	
0-4 years	19
5-9 years	19
10-20 years	14
21-30 years	3

Appendix C

Expert Satisfaction Ratings for Parent Training of IT

Section	Statement	*M*	*SD*
Content and organization	The manual is organized in the most effective manner.	4.63	.49
	The content of the manual represents evidenced-based practice for delivering IT.	4.52	.51
	The answers in the Question and Answer section are clear and complete.	4.52	.51
	The preference assessment is a necessary component of this training.	4.2	.65
Usefulness	The tables are useful for helping parents make decisions.	4.52	.51
	The forms are useful for helping parents track their child's progress.	4.57	.50
	The Question and Answer section is relevant to parents using IT for the first time.	4.47	.51
	The content of the manual is relevant and appropriate to parents using IT for the first time.	4.57	.50
Dissemination	The manual could be directly disseminated to parents (i.e., without the training) as a stand-alone resource.	4.1	.93

Appendix D

Examples of Expert Responses to Open-Ended Survey Questions

Statements	Responses
The manual is organized in the most effective manner.	"The manual is excellent. I love the photos, flow charts, glossaries, layperson-friendly language. One thing I don't like as much is the references to appendices early on. If I'm reading this, I want it to walk me through the steps without having to flip back and forth." "It might be useful to begin by having parents identify concerns and then indicating how incidental teaching can help."
The content of the manual is relevant and appropriate (e.g., technical terms are well defined) for parents using IT for the first time.	"The manual is mainly for children who are minimally verbal, and it might be useful to make this clear." "You may want to take out the term (earn)." "The language used in the manual is very parent-friendly!" "Although you use mostly layperson-friendly language, "IT" is a little (*researchy*). You might consider limiting the acronym."
The content of the manual represents evidenced-based practice for IT.	"Absolutely, and I appreciate the lack of references –parents don't want reading effort to be consumed by references."
The manual could be directly disseminated to parents (i.e., without the training) as a stand-alone resource.	"Even though you very clearly lay out the steps, relying on this would get mediocre integrity. I think there needs to be some video and feedback, and it would be even better." "It would depend on the background of the parent and the services the child is already receiving."
Incidental teaching the best term to describe the procedures in this manual.	"Yes!" "NET seems to be the current term in the field." "Naturalistic teaching."

Appendix E

Summary of Manual Revisions

Type of change	Revisions
Organization	Prompting procedures added to initial description of incidental teaching.
Content	Added additional suggestions for setting up the environment. Preference assessment section removed from main content of the manual and added to additional handouts. Provided definitions at the start of each section, as well as in the Glossary. Deleted reference to appendices in the introduction to the manual. Limited the use of acronyms (e.g., IT). Added an "intended user" portion. Added a data collection section for "physical reinforcers" (e.g., tickling, hugging). Corrected formatting inconsistencies in Appendix A.
Appropriateness	Changed technical language on flow charts. Replaced terms (i.e., earned, manipulate) with more parent friendly language. Revised introduction to highlight parent concerns and solutions to the concerns rather than starting with the definition of IT.
Data sheet utility	Added further explanation of data collection and added a section for parents to fill in a sample data sheet during the training.
Table utility	Added information about prompting for AAC users. Added examples of acceptable and unacceptable approximations.

Appendix F

Trainer information

WHAT IS YOUR AGE?

☐ 25 or under ☐ 26-40 ☐ 41-55 ☐ 56 or older

WHAT IS YOUR GENDER?

☐ Female ☐ Male

WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?

☐ Master's degree ☐ Doctoral degree ☐ Professional degree (MD, JD, etc.) ☐ Other _____

HOW LONG HAVE YOU BEEN WORKING WITH CHILDREN WITH AUTISM SPECTRUM DISORDER AS A PROFESSIONAL?

☐ 0-1 years ☐ 1-5 years ☐ 5-10 years ☐ 10-15 years

☐ More than 15 years

HOW LONG HAVE YOU BEEN WORKING WITH CHILDREN WITH A LANGUAGE DISORDER AS A PROFESSIONAL?

☐ 0-1 years ☐ 1-5 years ☐ 5-10 years ☐ 10-15 years

☐ More than 15 years

HOW MUCH EXPERIENCE HAVE YOU HAD WITH INCIDENTAL TEACHING?

☐ 0-1 years ☐ 1-5 years ☐ 5-10 years ☐ More than 10 years

☐ No experience

HOW MUCH EXPERIENCE HAVE YOU HAD CONDUCTING PARENT TRAINING?

☐ 0 years ☐ 1-5 years ☐ 5-10 years ☐ More than 10 years

☐ No experience

Appendix G

TRAINER PRE-WORSHOP PACKET

AGENDA

1. The packet contains the following material:

- **Power point**
- **Parent manual**
- **Role play directions sheet**
- **Appendices (Your Child's Communication Profile will be <u>filled in with child's current form of response and 5 items used in baseline-if complete at time of distribution</u>)**

2. Review directions with Workshop trainer (Erin, May, or Amanda)

3. Complete and return *Trainer information survey* to Erin during Trainer workshop

4. Complete and return *Training quiz* to Erin during Trainer workshop (this quiz should be completed while going through the manual)

DIRECTIONS:

The manual will be given to parents, and you will use the Power Point to guide them through it.

1. Read through the entire the *Power Point* while referring to the *manual*; when prompted to do so, review each role play (on the Role Play Direction sheet), watch each video, and review each written exercise.

Role play: During the role plays, the parent will demonstrate how to perform one or more IT steps with you, the trainer.

Exercise: Parents will complete written exercises that help individualize IT to their child, or to determine correct and incorrect teaching methods.

While reviewing the Power Point slides, you will see that the trainer scripts (Notes Pages) include the following prompts to help you implement the training:

Regular text = lecture on content

BOLD text = a question you ask the parents, or a direction you are asking the parent to follow, that requires you to wait for a parent response.

<u>BOLD and underlined text = Check that the parent's answers are correct before moving to the next section of the script. If not correct, you'll provide additional examples (this will be described during the workshop).</u>

BOLD and italicized = Play a video, read a scenario, or Click the PP to reveal something hidden on a slide

3. During the workshop, you'll compete each exercise and role play with the instructor.

- **Please write down any questions you have regarding the manual or the Power Point slides. We will answer these questions during the Trainer workshop.**

1.
2.
3.
4.
5.

Trainer Information Questionaire *(see Appendix F)*

Trainer Quiz *(return at Trainer Workshop)*

The purpose of this quiz is to prepare you for the upcoming Training Workshop. Please feel free to refer to any of the materials (i.e., PowerPoint, Role Play Document, and Videos) as often as necessary while you complete the quiz.

1. What will parents learn from this training?

_____

_____

_____

2. Which appendix will parents fill out during the Preparing for Teaching section?

A. Appendix C: TRAINING Trial Flow Chart

B. Appendix B: DEMONSTRATION Trial Flow Chart

C. Appendix D: Quick Reference Guide

D. Appendix A: Your Child's Communication Profile

3. For Preparing to Teach (slide 13), you must confirm that each parent has a _____.

4. What are the two types of prompts?

A. Pointing and gesturing

B. Manual guidance and vocal model

C. Repeating yourself and waiting

D. Physically guiding and pointing

5. For Preparing to Teach (slide 19), when would you teach parents to deliver an item for an approximation?

a) _____
_____

b) _____
_____

c)

6. List the 4 steps of parent-led teaching:

1. _____

2. _____

3. _____

4. _____

7. You are shaping the request "ball" for a speaking child who has never said anything for ball. In trial 1, you hold up the ball and she says, "ah". Do you teach parents to prompt the responsep, or give her the ball?

A. Prompt the response

B. Give her the ball

8. List the 3 ways a parent can follow a child's lead and create a child-led teaching opportunity (slide 38)?

1. _____

2. _____

3. _____

9. For the Child-Led Teaching exercise on slide 43, what should you do after telling parents to write down examples of different ways to set up child-led teaching?

A. Give your own examples to set up child-led teaching

B. Move to the next slide

C. Have each parent share their answers. Provide feedback for any incorrect responses

D. Have parents share stories of their children

10. List 3 skills that parents can teach to expand on mastered requests (slide 46).

1. _____

2. _____

3. _____

Appendix H

Manual Orientation Workshop

Trainer: _____ **Trainee:_____**

Date:_____ **Primary/secondary:_____**

***The authors will use this document to lead the trainers through the manual and the Power Point.**

Setup:

- ☐ Display the Power Point on the monitor.
- ☐ Have an extra manual available for authors to write answers when trainer leads them through exercises.

Material to collect from and distribute to the trainer:

- ☐ Collect the *Trainer demographic survey*
- ☐ Distribute the Trainer kit
  - Reinforcer bag (ball, candy, wind-up-toy, Raisins, crayons, sticker sheet, puzzle, distractor toys, legos, puzzle, and coloring book)
  - Parent manual x 2
  - Power point (if they don't already have it)
  - Role play directions sheet (laminated)
  - Parent packet (extra copy of appendices with form of communication and reinforcers filled in)

Checklist to complete at beginning of the workshop:

- ☐ Collect and score the quiz. Review any incorrect answers (answer key on last page of this document).
- ☐ Ask trainers if they have any questions about the manual or PP. Also, if the trainer wrote questions at the bottom of the quiz, review them.
- ☐ Review format of the manual and PP.
  - The manual will be given to the parents while you use the PP to guide them through it.
- ☐ There will be a break in the middle. The researchers will order dinner for the trainees and the trainer.

Role play, videos, and exercise information

**Review this information with the trainer*

- ☐ Review each role play (Role play directions sheet)
  - The focus of the role play is in green.
  - If parent is using a sign to teach their child, have them use "more" for role plays if sign is not known.

- Have parent's complete each exercise or role play till mastery! If parent is incorrect, have them repeat it UNTIL they are correct.
    - Most exercises have a second example if a parent is incorrect. (See SLIDE 20 for example).
    - For role plays, have the parent repeat the trial they were incorrect on. You'll refer to Role play document for all role plays, expect first one (showing parent how to prompt). This is all included in the notes section on the Power Point.
- When parent is correct, praise and give feedback!
- You can replay videos if asked.
- If parents look confused, is engaging in off task behavior, or seems disengaged, ask them if they have any questions.
- Answer parent questions by referring to videos and/or relating to their child.
    - If the answer is going to come up later in the training, let them know that's a good question and we are doing to get to it.
    - There are some questions that won't have answers within the training.
        - An example of this type of questions is, "my child has been working with an SLP for a year on signs and still hasn't made progress, why will this help?"
        - Example answer: SLPs have limited time to work with your child, that's why we think parent training is so important. You spend many more hours with your child than the SLP, so it's our hope that will more opportunities, your child will learn.

Presentation Format Information

Show the trainer the following, and explain that each section is organized in the following format:

TERMS: Most sections start with terms. Some sections don't include new terms.

TERMS USED IN THIS SECTION
Parent-led Teaching: During parent-led teaching, you will set up the preferred item your child will learn to request.

CONTENT: Terms are followed by a description of the section's content. This may include videos, pictorial, or live models.

REHEARSAL: After the content is described, most sections include a written exercise or a role play. This is what parents will see when they have a written exercise. Role plays will be indicated on the slide.

Write down the answer to the written scenario.		
1.	**Provide the item**	**Don't provide the item**
2.	**Provide the item**	**Don't provide the item**

HINTS: Lastly, most sections include hints. You won't read all the hints listed in the manual (only the most important hints). Hints review the section's most important content, or additional information.

HINTS 

✓ **Keep the preferred items out of reach throughout the day, so that your child is excited to have them during teaching sessions.**

Review of manual and Power Point by section

**Review each section of the manual with the trainer while going through the slides.*

Section 1: Introduction to the manual (slide #1-3)

- In the first section, you'll introduce yourself, and have parents introduce themselves and state why they are here.
- You'll review what the training is for, and what the parents will learn. At the end of this section you'll see a prompt to ask the parent if they have any questions.

Section 2 & 3: Training Overview and Goals/Preparing to teach (slide #4)

- This is a brief overview of what you'll be expanding on within the training. This is also where you'll have the parent take out the Appendixes.
- You'll review the difference between parent-led, and child led teaching. *ASK TRAINER: Is the difference between these two teaching methods clear?* ***(slide #5-9)***
- Then you'll guide parent in filling in *"Your Child's Communication Profile"* (Appendix A).
- **First, they'll, identify the items the child will learn to request. (slide #10)**

You'll see the prompt to make sure each parent has 3 items.
If they don't, you'll help them.

- **Next, they'll identify the type of communication the child will use to request (slide #12)**
  - You'll guide the parents using Table 1 (PP 13), on determining a type of communication (if they don't have one). You'll make sure they have it written on App A.
- **Next, they'll determine how to prompt the child to request (slide #14)**
  - You'll help the parent determine a prompt using the Table, and show videos of prompting.
  - Have trainer administer the first role play. Go to SLIDE 15, and have them refer to notes under the SLIDE. (ACT AS THE PARENT AND HAVE TRAINER PRACTICE UNTIL MASTERED-have trainer guide you to sign "more" and "say pencil").

SLIDE	GOAL	RATING	# of Attempts
S15-16	Completed prompting role play with parent 1 (using vocal prompt)	0 1 2 N/A	
S15-16	Gave descriptive praise OR feedback until trainee correctly prompted	0 1 2 N/A	
S15-16	Completed manual guidance prompting role play	0 1 2 N/A	
S15-16	Gave descriptive praise OR feedback until trainee correctly prompted	0 1 2 N/A	

*It's important that during every role play, you give the parent as many chances as they need to get it correct.

- **Determine acceptable and unacceptable approximations of requests (slide #17)**
  - You'll help the parent determine approximations using the Table (p. 17).
  - You'll review shaping, and lead parents through exercise (HAVE TRAINER LEAD YOU THROUGH EXERCISE USING NOTES ON SLIDE)

S20	Completed written exercise (read each scenario, and instructed parent to circle correct answer)	0 1 2 N/A	
S20	Checked parent answers, if incorrect, gave feedback, and provided a similar scenario until correct	0 1 2 N/A	
S20	If necessary, provided a similar scenario until parent was correct	0 1 2 N/A	

Section 4- Parent-led teaching: Have the trainer lead you through the entire parent-led section. Provide opportunities for the trainer to correctly administer any incorrect responses until mastery. Take data on the last attempt. Write the number of attempts in the far-right column. Start on **SLIDE 22.**

0 = Goal was not introduced or covered by the clinician
1 = Goal was partially achieved (e.g., trainer completed 1 out of 2 trials, and not the other; only part of the section was explained)
2 = Goal was fully achieved (e.g., role play and exercise were correctly completed; all information within a topic was explained)

4. Parent-led teaching (PLT) S22	Reviewed 4-steps of PLT and 2 definitions	0 1 2 N/A	
Step 1-Increasing motivation to request Step 2- Interest in item S23	Explained Step 1 & Step 2 using Power point	0 1 2 N/A	
S24	Reviewed ways to tell if child is interested	0 1 2 N/A	
S24	Asked PARENT 1 how their child shows interest in an item (if the parent hasn't already said it)	0 1 2 N/A	
S24	Asked PARENT 2 how their child shows interest in an item (if the parent hasn't already said it)	0 1 2 N/A	
S25	Reviewed what to do "if your child isn't interested"	0 1 2 N/A	
S25	Played Gaining interest video	0 1 2 N/A	
S26	Reviewed helpful hints	0 1 2 N/A	

S26	Played PLT video (showing item)	0 1 2 N/A	
S26	Led PARENT 1 through "setting up item" role play	0 1 2 N/A	
S26	Provided PARENT 1 with descriptive praise OR feedback	0 1 2 N/A	
S26	If necessary, provided PARENT 1 with additional role play opportunities until correct	0 1 2 N/A	
S26	Led PARENT 2 through "setting up item" role play	0 1 2 N/A	
S26	Provided PARENT 2 with descriptive praise OR feedback	0 1 2 N/A	
S26	If necessary, provided PARENT 2 with additional role play opportunities until correct	0 1 2 N/A	
S26	Correctly answered all parent questions	0 1 2 N/A	
Step 3-Prompting your child to request S27	Introduced Step 3, told parents to find the prompt they are using on *Your Child's Communication Profile* #3	0 1 2 N/A	
S27	Reviewed Demonstration Trial/Training trial definition	0 1 2 N/A	
S27	Played Demonstration Trial video	0 1 2 N/A	
S27	Played Training Trial video	0 1 2 N/A	
S28	Reviewed when to (and when not to) prompt	0 1 2 N/A	
S28	Played correct-response, no prompt video	0 1 2 N/A	
S28	Played lesser approximation video	0 1 2 N/A	
S29	Completed vocal prompting exercise with PARENT 1 (at least 2 trials)	0 1 2 N/A	
S29	PARENT 1: Provided descriptive praise OR feedback	0 1 2 N/A	
S29	Provided additional questions, if necessary for PARENT 1	0 1 2 N/A	
S29	Completed vocal prompting exercise with PARENT 2 (at least 2 trials)	0 1 2 N/A	
S29	PARENT 2: Provided descriptive praise OR feedback	0 1 2 N/A	
S29	Provided additional questions, if necessary for PARENT 2	0 1 2 N/A	
S30	Completed MG prompting exercise with PARENT 1 (at least 2 trials)	0 1 2 N/A	
S30	PARENT 1: Provided descriptive praise OR feedback	0 1 2 N/A	

S30	Provided additional questions, if necessary for PARENT 1	0 1 2 N/A	
S30	Completed MG prompting exercise with PARENT 2 (at least 2 trials)	0 1 2 N/A	
S30	PARENT 2: Provided descriptive praise OR feedback	0 1 2 N/A	
S30	Provided additional questions, if necessary for PARENT 2	0 1 2 N/A	
S31	Told parents to take out APP B & C (flow charts), checked to make sure they have them, and briefly explained when to use them	0 1 2 N/A	
S31	Asked PARENT 1 what type of communication and prompt they'll be using with their child	0 1 2 N/A	
S31	ASKED PARENT 2 what type of communication and prompt they'll be using with their child	0 1 2 N/A	
S31	Led PARENT 2 through prompting role plays (2 trials)	0 1 2 N/A	
S31	PARENT 2: Provided descriptive praise OR feedback	0 1 2 N/A	
S31	If necessary, provided opportunities until PARENT 2 correctly prompted	0 1 2 N/A	
S31	Led PARENT 1 through prompting role play (2 trials)	0 1 2 N/A	
S31	PARENT 1: Provided descriptive praise OR feedback	0 1 2 N/A	
S31	If necessary, provided opportunities until PARENT 1 correctly prompted	0 1 2 N/A	
S32	Reviewed helpful hint	0 1 2 N/A	
S32	Correctly answered all parent questions	0 1 2 N/A	
Step 4-Giving your child the requested item S33	Introduced Step 4 - Discussed when to and when not to give the child the preferred item	0 1 2 N/A	
S33	Reviewed helpful hints	0 1 2 N/A	
S33	Correctly answered all parent questions	0 1 2 N/A	
	Total score:_____ Divide total trainer score by total available points per section. N/A ratings don't count toward total.	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section:			

# of questions asked by trainer (e.g., Does anyone have any questions?): ____

Section 5: Child-led teaching (Slide #38-44)

- The Child-led teaching section has the same format as the parent-led teaching section(videos, role-plays, exercises).
- Have trainer administer "Missed Opportunities Video Exercise," (SLIDE 42)

S42	Led parents through missed opportunity activity (played video, told parents to write down missed opportunities)	0 1 2 N/A	
S42	Asked PARENT 2 to state at least 1 missed opportunity.	0 1 2 N/A	
S42	Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	
S42	Asked PARENT 1 to state at least 1 missed opportunities, and reviewed the rest.	0 1 2 N/A	
S42	Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	

- Have trainer administer determining child-led opportunities for your child at the playground exercise (SLIDE 43). (PRACTICE WITH TRAINER).

S43	Ran exercise with parents (determine requests specific to your child at the playground)	0 1 2 N/A	
S43	Asked PARENT 1 for an answer from each of the 3 sections	0 1 2 N/A	
S43	PARENT 1: Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	
S43	Asked PARENT 2 for an answer from each of the 3 sections	0 1 2 N/A	
S43	PARENT 2: Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	

- Have trainer administer CLT- role plays until trainer correctly administered it.

S44	Ran CLT role plays with PARENT 1 (2 trials)	0 1 2 N/A	

S44	PARENT 1: Provided descriptive praise or feedback	0 1 2 N/A	
	If necessary, provided opportunities until PARENT 1 correctly performed each step	0 1 2 N/A	
S44	Ran CLT role plays with PARENT 2 (2 trials)	0 1 2 N/A	
S44	PARENT 2: Provided descriptive praise or feedback	0 1 2 N/A	
S44	If necessary, provided opportunities until PARENT 2 correctly performed each step	0 1 2 N/A	

Section 6: Adjusting teaching section (Slide #45-46)

- You'll review the "Adjusting teaching section." This section describes what to do when requests are mastered, and when there is problem (for example, the child isn't learning to request).
- Have trainer administer exercise on how to adjust teaching (SLIDE 45).

S45	Ran Adjusting teaching exercise with PARENT 2 (at least 1 trial)	0 1 2 N/A	
S45	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S45	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S45	Ran Adjusting teaching exercise with PARENT 1 (at least 1 trial)	0 1 2 N/A	
S45	PARENT 1: Provided descriptive praise OR feedback for incorrect answers.	0 1 2 N/A	
S45	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	

Section 7: Frequently Asked Questions (Slide #47-50)

- Next, you'll go through Frequently Asked questions 1, 5.
- Then 10 and 11 (problem behavior).
- Have trainer administer problem behavior scenarios exercise (SLIDE 49).

S49-50	Ran problem behavior exercise (asked parents for a response to scenario)	0 1 2 N/A	
S49-50	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	

S49-50	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S49-50	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S49-50	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	

Review (Slide #51)

- Review child and parent-led teaching using SLIDE 51.
- Review the last role plays (parent-led, child-led [including "all done"]) (SLIDE 51)

S51	Ran parent led role play with PARENT 2 (5 trials)	0 1 2 N/A	
S51	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S51	Ran parent led role play with PARENT 1 (5 trials)	0 1 2 N/A	
S51	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S51	Ran child led role play with PARENT 1 (2 trials)	0 1 2 N/A	
S51	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S51	Ran child led role play with PARENT 2 (2 trials)	0 1 2 N/	
S51	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/	

END

- Let parents know that all the appendices we used in your packet are included in the back of the manual.
    - Appendix D is a quick reference guide that will remind you how to prepare to teach, and the teaching steps. This is a good reference to look at before you start teaching tomorrow! Lastly, you'll ask for questions!

**Ask trainer if she has ANY questions?*

Administer Survey (pass out Post-workshop satisfaction survey)

Trainer Quiz Answer Key

1. What will parents learn from this training?

This manual and training are designed to help parents teach their children to communicate. Specifically, they'll learn to teach their child to ask for things, like child's favorite food or toy.

2. Which appendix would you refer to for Preparing for Teaching?

A. Appendix A: TRAINING Trial Flow Chart

B. Appendix B: DEMONSTRATION Trial Flow Chart

C. Appendix D: Your Child's Preferred Items or Events

***D. Appendix A: Your Child's Communication Profile**

3. For Preparing to Teach (slide 12), you must confirm that each parent has a current _____.

Answer: **type of communication**

4. What are the two types of prompts?

A. Pointing and gesturing

***B. Manually guiding and vocal modeling**

C. Repeating yourself and waiting

D. Physically guiding and pointing

5. For Preparing to Teach (slide 19), when would you provide an item for an approximation?

a) **When the response is an acceptable approximation [e.g., "ball" approximations would include a related sound ("ba", "balla", "bu").**
b) **For any response that is a closer approximation (e.g., "ba" for ball) of the correct response that you child's last response (e.g., "ah" for ball).**

6. List the 4 steps to parent-led teaching

1. **Arrange the environment to include your child's preferred items**
2. **Wait for your child to show interest in the preferred item**
3. **Prompt the response after your child appears interested in the preferred item**
4. **Give your child the preferred item if he or she responds correctly to the prompt**

7. You are shaping the request "ball" for a speaking child who has never said anything for ball. In trial 1, you hold up the ball and she says, "ah". Do you give her the ball or prompt the response?

A. Prompt the response

***B. Give her the ball**

8. List 3 ways in which you can determine a request to teach (slide 38)?

1. **Watch for the child to show interest in an item**
2. **Block an item or interrupt an activity**
3. **End a non-preferred activity**

9. For Child-Led Teaching (slide 43), what should you do after telling parents to write down examples for different ways to set up child-led teaching?

A. Give your own examples to set up child-led teaching

B. Move to the next slide

***C. Have each parent share their answers. Provide feedback for any incorrect responses**

D. Have parents share stories of their children

10. List 3 skills that can be taught to expand on mastered requests (slide 46).

- **Use eye contact**
- **Use appropriate volume**
- **Use social niceties**
- **Expand the number of words your child uses to request**
- **Request with new people**
- **Request in new places**

Appendix I

Trainer Checklist

General Instructions:

- Complete the Trainer Checklist during the training (or while watching a recording of the training) to indicate the degree to which the Trainer Goals were accomplished.
- Circle N/A if an opportunity did not occur (e.g., did not need to provide novel role plays), and do not count steps scored with N/A in the total points available for the section.

0 = Goal was not introduced or covered by the clinician
1 = Goal was partially achieved (e.g., trainer completed 1 out of 2 trials, and not the other; only part of the section was explained)
2 = Goal was fully achieved (e.g., role play and exercise were correctly completed; all information within a topic was explained)

KEY
Role plays = BLUE
Exercises = GREEN
S# = slide number that correlates with Trainer Goal
Shaded scoring box = competence (all other items are adherence)

Section	Trainer Goals	Rating	Notes
1. Introduction to the manual S1	Introduced self and manual	0 1 2 N/A	
S1	Had each parent introduce themselves	0 1 2 N/A	
S2	Reviewed Table of Contents	0 1 2 N/A	
S3	Reviewed questions 1-5	0 1 2 N/A	
S3	Asked parents if they had questions, and answered them correctly # of parent questions _____	0 1 2 N/A	
	Total score:_____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section:			
2. Training overview and Goals S4	Introduced overview section	0 1 2 N/A	

S4	Checked that parents took out *Your Child's Communication Profile*	0 1 2 N/A	
S5	Described Parent Led Teaching (PLT)	0 1 2 N/A	
S6	Played PLT Video	0 1 2 N/A	
S7	Described steps of PLT	0 1 2 N/A	
S8	Described steps of Child Led Teaching (CLT)	0 1 2 N/A	
S8	Played 3 CLT Videos	0 1 2 N/A	
S9	Restated steps of CLT	0 1 2 N/A	
	Total score:_____ Divide total trainer score by total available points per section. N/A ratings don't count toward total.	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
3. Preparing to teach S10	Instructed parents to state the 5 items that were tested at baseline	0 1 2 N/A	
-Identifying favorite items S10	Instructed parents how to identify more of the child's favorite items	0 1 2 N/A	
S10	Checked that parent had at least two favorite items written	0 1 2 N/A	
S11	Reviewed helpful hint	0 1 2 N/A	
S11	Correctly answered all parent questions	0 1 2 N/A	
-Identifying type of communication S12	Introduced topic using Power point	0 1 2 N/A	
S12	Had parent state child's form of communication during baseline	0 1 2 N/A	
S12	Asked each parent if they have a type of communication they are already working on teaching	0 1 2 N/A	
S13	If necessary, helped parent determine a "type of communication"	0 1 2 N/A	
S12 or S13	Confirmed that each parent added a type of communication to "Your Childs Communication Profile"	0 1 2 N/A	
S13	Correctly answered parent questions	0 1 2 N/A	
-Determining how you will prompt your child to request	Defined prompt and the two types of prompts	0 1 2 N/A	

S14			
S14	Played MG prompting video	0 1 2 N/A	
S14	Played VM prompting video	0 1 2 N/A	
S14	Guided parents in determining the correct prompt for their child	0 1 2 N/A	
S14	Had parents describe the prompt they'll use with their child	0 1 2 N/A	
S15-16	Completed prompting role play with PARENT 1	0 1 2 N/A	
S15-16	Gave descriptive praise OR feedback when needed until PARENT 1 correctly prompted	0 1 2 N/A	
S15-16	Completed prompting role play with PARENT 2	0 1 2 N/A	
S15-16	Gave descriptive praise OR feedback when needed until PARENT 2 correctly prompted	0 1 2 N/A	
S16	Reviewed helpful hint	0 1 2 N/A	
S16	Played model prompt video	0 1 2 N/A	
S16	Correctly answered all parent questions	0 1 2 N/A	
-Determining better and lesser approximations of requests S17	Introduced section, reviewed two definitions (approximation and shaping), and guided parents through examples in manual	0 1 2 N/A	
S18	Explained how to identify better and lesser approximations using Table 3	0 1 2 N/A	
S18	Checked that each parent wrote down correct better and lesser approximations	0 1 2 N/A	
S19	Reviewed shaping rules	0 1 2 N/A	
S20	Completed Mock Teaching written exercise (read each scenario, and instructed parents to circle correct answer)	0 1 2 N/A	
S20	Checked PARENT 2 answers, if incorrect gave feedback, if correct gave descriptive praise	0 1 2 N/A	
S20	If necessary, provided a similar scenario until PARENT 2 was correct	0 1 2 N/A	
S20	Checked PARENT 1 answers, if incorrect gave feedback, if correct gave descriptive praise	0 1 2 N/A	
S20	If necessary, provided a similar scenario until PARENT 1 was correct	0 1 2 N/A	
S21	Reviewed helpful hints	0 1 2 N/A	

S21	Played modeling of correct request video	0 1 2 N/A	
S21	Correctly answered all parent questions	0 1 2 N/A	
	Total score: _____ Divide total trainer score by total available points per section. N/A ratings don't count toward total.	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
4. Parent-led teaching (PLT) S22	Reviewed 4-steps of PLT and 2 definitions	0 1 2 N/A	
Step 1-Increasing motivation to request Step 2- Interest in item S23	Explained Step 1 & Step 2 using Power point	0 1 2 N/A	
S24	Reviewed ways to tell if child is interested	0 1 2 N/A	
S24	Asked PARENT 1 how their child shows interest in an item (if the parent hasn't already said it)	0 1 2 N/A	
S24	Asked PARENT 2 how their child shows interest in an item (if the parent hasn't already said it)	0 1 2 N/A	
S25	Reviewed what to do "if your child isn't interested"	0 1 2 N/A	
S25	Played Gaining interest video	0 1 2 N/A	
S26	Reviewed helpful hints	0 1 2 N/A	
S26	Played PLT video (showing item)	0 1 2 N/A	
S26	Led PARENT 1 through "setting up item" role play	0 1 2 N/A	
S26	Provided PARENT 1 with descriptive praise OR feedback	0 1 2 N/A	
S26	If necessary, provided PARENT 1 with additional role play opportunities until correct	0 1 2 N/A	
S26	Led PARENT 2 through "setting up item" role play	0 1 2 N/A	
S26	Provided PARENT 2 with descriptive praise OR feedback	0 1 2 N/A	
S26	If necessary, provided PARENT 2 with additional role play opportunities until correct	0 1 2 N/A	

S26	Correctly answered all parent questions	0	1	2	N/A	
Step 3-Prompting your child to request S27	Introduced Step 3, told parents to find the prompt they are using on *Your Child's Communication Profile* #3	0	1	2	N/A	
S27	Reviewed Demonstration Trial/Training trial definition	0	1	2	N/A	
S27	Played Demonstration Trial video	0	1	2	N/A	
S27	Played Training Trial video	0	1	2	N/A	
S28	Reviewed when to (and when not to) prompt	0	1	2	N/A	
S28	Played correct-response, no prompt video	0	1	2	N/A	
S28	Played lesser approximation video	0	1	2	N/A	
S29	Completed vocal prompting exercise with PARENT 1 (at least 2 trials)	0	1	2	N/A	
S29	PARENT 1: Provided descriptive praise OR feedback	0	1	2	N/A	
S29	Provided additional questions, if necessary for PARENT 1	0	1	2	N/A	
S29	Completed vocal prompting exercise with PARENT 2 (at least 2 trials)	0	1	2	N/A	
S29	PARENT 2: Provided descriptive praise OR feedback	0	1	2	N/A	
S29	Provided additional questions, if necessary for PARENT 2	0	1	2	N/A	
S30	Completed MG prompting exercise with PARENT 1 (at least 2 trials)	0	1	2	N/A	
S30	PARENT 1: Provided descriptive praise OR feedback	0	1	2	N/A	
S30	Provided additional questions, if necessary for PARENT 1	0	1	2	N/A	
S30	Completed MG prompting exercise with PARENT 2 (at least 2 trials)	0	1	2	N/A	
S30	PARENT 2: Provided descriptive praise OR feedback	0	1	2	N/A	
S30	Provided additional questions, if necessary for PARENT 2	0	1	2	N/A	
S31	Told parents to take out APP B & C (flow charts), checked to make sure they have them, and briefly explained when to use them	0	1	2	N/A	
S31	Asked PARENT 1 what type of communication and prompt they'll be using with their child	0	1	2	N/A	

S31	ASKED PARENT 2 what type of communication and prompt they'll be using with their child	0 1 2 N/A	
S31	Led PARENT 2 through prompting role plays (2 trials)	0 1 2 N/A	
S31	PARENT 2: Provided descriptive praise OR feedback	0 1 2 N/A	
S31	If necessary, provided opportunities until PARENT 2 correctly prompted	0 1 2 N/A	
S31	Led PARENT 1 through prompting role play (2 trials)	0 1 2 N/A	
S31	PARENT 1: Provided descriptive praise OR feedback	0 1 2 N/A	
S31	If necessary, provided opportunities until PARENT 1 correctly prompted	0 1 2 N/A	
S32	Reviewed helpful hint	0 1 2 N/A	
S32	Correctly answered all parent questions	0 1 2 N/A	
Step 4-Giving your child the requested item S33	Introduced Step 4 - Discussed when to and when not to give the child the preferred item	0 1 2 N/A	
S33	Reviewed helpful hints	0 1 2 N/A	
S33	Correctly answered all parent questions	0 1 2 N/A	
	Total score:_____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
S34	Played 3 PLT videos	0 1 2 N/A	
S34	Administered "correct or incorrect teaching" exercise	0 1 2 N/A	
S34	Checked PARENT 1 answers, provided descriptive praise OR feedback if incorrect	0 1 2 N/A	
S34	Checked PARENT 2 answers, provided descriptive praise OR feedback if incorrect	0 1 2 N/A	
S35	Played Parent-led Teaching video	0 1 2 N/A	
PLT Role plays S35	Ran role plays with PARENT 1	0 1 2 N/A	

PLT Role plays S35	Provided descriptive praise or feedback for PARENT 1	0 1 2 N/A	
PLT Role plays S35	If necessary, provided opportunities until PARENT 1 correctly performed each step	0 1 2 N/A	
PLT Role plays S35	Ran role plays with PARENT 2	0 1 2 N/A	
S35	Provided descriptive praise or feedback for PARENT 2	0 1 2 N/A	
PLT Role plays S35	If necessary, provided opportunities until PARENT 2 correctly performed each step	0 1 2 N/A	
S36	Reviewed helpful hints	0 1 2 N/A	
S36	Played model correct response video	0 1 2 N/A	
S36	Correctly answered all parent questions	0 1 2 N/A	
	Total score:_____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
BREAK (S37)			
5. Child-led teaching (CLT) S38	Reviewed CLT and 3 ways to set it up	0 1 2 N/A	
S38	Played 5 CLT (ways to set up environment) videos	0 1 2 N/A	
S39	Played 2 CLT (how to teach in all environments) videos	0 1 2 N/A	
S39	Reviewed additional examples of CLT	0 1 2 N/A	
S40	Reviewed examples of requests specific to commonly occurring events	0 1 2 N/A	
S41	Reviewed examples of general requests	0 1 2 N/A	
S42	Led parents through missed opportunity activity (played video, told parents to write down missed opportunities)	0 1 2 N/A	
S42	Asked PARENT 2 to state at least 1 missed opportunity.	0 1 2 N/A	
S42	Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	

S42	Asked PARENT 1 to state at least 1 missed opportunities, and reviewed the rest.	0 1 2 N/A	
S42	Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	
S43	Ran exercise with parents (determine requests specific to your child at the playground)	0 1 2 N/A	
S43	Asked PARENT 1 for an answer from each of the 3 sections	0 1 2 N/A	
S43	PARENT 1: Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	
S43	Asked PARENT 2 for an answer from each of the 3 sections	0 1 2 N/A	
S43	PARENT 2: Provided descriptive praise, OR provided feedback if necessary	0 1 2 N/A	
S44	Ran CLT role plays with PARENT 1 (2 trials)	0 1 2 N/A	
S44	PARENT 1: Provided descriptive praise or feedback	0 1 2 N/A	
	If necessary, provided opportunities until PARENT 1 correctly performed each step	0 1 2 N/A	
S44	Ran CLT role plays with PARENT 2 (2 trials)	0 1 2 N/A	
S44	PARENT 2: Provided descriptive praise or feedback	0 1 2 N/A	
S44	If necessary, provided opportunities until PARENT 2 correctly performed each step	0 1 2 N/A	
S44	Correctly answered all parent questions	0 1 2 N/A	
	Total score:_____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
#6-Adjusting teaching S45	Explained why teaching may need to be adjusted based on the child's performance	0 1 2 N/A	

S45	Ran Adjusting teaching exercise with PARENT 2 (at least 1 trial)	0 1 2 N/A	
S45	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S45	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S45	Ran Adjusting teaching exercise with PARENT 1 (at least 1 trial)	0 1 2 N/A	
S45	PARENT 1: Provided descriptive praise OR feedback for incorrect answers.	0 1 2 N/A	
S45	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S46	Reviewed "how to expand on mastered requests" table	0 1 2 N/A	
S46	Correctly answered all parent questions	0 1 2 N/A	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
	Total score:_____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
7. Frequently asked questions S47	Reviewed Q's #1, 5	0 1 2 N/A	
S48	Reviewed Q's #10, 11	0 1 2 N/A	
S48	Played 3 accompanying problem behavior videos	0 1 2 N/A	
S49-50	Ran problem behavior exercise (asked parents for a response to scenario)	0 1 2 N/A	
S49-50	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S49-50	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S49-50	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S49-50	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	

	Total score: _____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	
Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section: # of questions asked by trainer (e.g., Does anyone have any questions?): ____			
Review S51	Reviewed 2 types of teaching	0 1 2 N/A	
S51	Asked parents if they had questions specific to CLT or PLT	0 1 2 N/A	
S51	If necessary, created role plays for practice on specific steps	0 1 2 N/A	
S51	Ran parent led role play with PARENT 2 (5 trials)	0 1 2 N/A	
S51	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S51	Ran parent led role play with PARENT 1 (5 trials)	0 1 2 N/A	
S51	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S51	Ran child led role play with PARENT 1 (2 trials)	0 1 2 N/A	
S51	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S51	Ran child led role play with PARENT 2 (2 trials)	0 1 2 N/	
S51	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/	
S51	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/	
S51	Ran child led-all done role play with PARENT 2 (1 trial)	0 1 2 N/A	

S51	PARENT 2: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 2 performed correctly	0 1 2 N/A	
S51	Ran child led-all done role play with PARENT 1 (1 trial)	0 1 2 N/A	
S51	PARENT 1: Provided descriptive praise OR feedback for incorrect answers	0 1 2 N/A	
S51	If necessary, provided opportunities until PARENT 1 performed correctly	0 1 2 N/A	
S52	Reminded parents to teach their children to request the items tested at baseline	0 1 2 N/A	
S52	Asked parents if they had any questions	0 1 2 N/A	
	Total score: _____ **Divide total trainer score by total available points per section. N/A ratings don't count toward total.**	Total available points per section____ Total trainer score ____	

Any information, activities, or instances of feedback beyond the scope of the materials that trainers presented in the prior section:

# of questions asked by trainer (e.g., Does anyone have any questions?): ____

	A total score of X *(80%) and higher reflects adequate treatment fidelity. **Total score: _____** **Divide total parent score by total available points (XX) and X by 100**	Total available points____ Total trainer score ____	

Appendix J

Parent Checklist (PARENT 1)

The following scale should be used to rate the degree to which the ***parent*** goal was accomplished.

- Write the # of attempts in far-right column; score only the LAST attempt at the answer.
- Circle N/A if opportunity didn't occur (e.g., parent didn't ask a question), and don't include points in the total.
- Role play scoring: The (+) or (-) in the green box will indicate if the parent correctly performed the relevant step. Score only the performance on green step.

0 = Parent did not demonstrate skill or understanding (e.g., even after multiple attempts, the parent did not correctly perform the role play, or answer a question during an exercise)
1 = Goal was partially achieved (e.g., 2 out of 5 steps were performed correctly during a role play)
2 = Goal was fully achieved (e.g., the parent performed correctly in the final attempt at the goal)

Role plays =BLUE
Target step within role play = Green
S# = slide number that correlates with Parent Fidelity measure

Section	Parent Fidelity measure	Rating	Attempt # / Notes
3. Preparing to teach S10	Read aloud 5 items that were used during baseline	0 1 2 N/A	
S10	Generated 1-3 "preferred items" for their child and added them to "Your Child's Communication Profile"	0 1 2 N/A	
-Identifying the type of communication your child will use to request S12	Read aloud type of communication their child used in baseline	0 1 2 N/A	
S13	Generated new "type of communication" for their child and added it to "Your Child's Communication Profile" (unless they already had one)	0 1 2 N/A	
- Determining how to prompt your child S14	Generated "type of prompt" for their child and added it to "Your Child's Communication Profile"	0 1 2 N/A	
S14	Read aloud child's prompt type	0 1 2 N/A	
S15	Correctly prompted within 5 seconds during role play using child-specific prompt (1 trial)	0 1 2 N/A	

-Determining better and lesser approximations of requests S18	Generated "better and lesser approximations" for their child and added it to "Your Child's Communication Profile"	0 1 2 N/A	
S20 Mock Teaching	Stated the answer to at least 1 question correctly during exercise	0 1 2 N/A	
SECTION 3	**Total score: _____** **Divide total parent score by total available points per section**	Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __			
4. Parent-led teaching S24	Stated "how child lets them know they want something"	0 1 2 N/A	
S26	Performed correctly during role play **PARENT 1:** (+) Parent waits for interest or tries to gain interest (-) Parent prompts request before trainer shows interest	0 1 2 N/A	
Practicing when to prompt S29	Parent correctly stated at least 2 questions during "deciding when to **vocally** prompt exercise"	0 1 2 N/A	
S30	Stated the correct answer to at least 2 questions during "deciding when to **manually** prompt exercise"	0 1 2 N/A	
S31	Performed correctly during PLT role play **TRIAL 1- PARENT 1:** (+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt, or doesn't prompt	0 1 2 N/A	
S31	Performed correctly during PLT role play **TRIAL 2- PARENT 1:** (+) Parent waits 3 sec to prompt (-) Parent prompts immediately, waits at least 5 sec to prompt, or doesn't prompt	0 1 2 N/A	
Parent-led teaching	Wrote correct answer for Video 1	0 1 2 N/A	
	Wrote correct answer for Video 2	0 1 2 N/A	

exercise (watching videos) S34	Wrote correct answer for Video 3				0 1 2 N/A	
PLT Role Plays S35	**PARENT 1** Performed the green step correctly and during PLT role play- trial 1 -5				See below for scoring	
Parent responses →	**Hold up item**	**Look for interest**	**Prompt response**	**Wait 3 sec**	**Give item immediately**	**SCORING**
1. Demonstration *Trainer responses* →			Trainer: Comply with prompt Provide feedback: (+) Parent prompts immediately (-) Parent waits 3 sec to prompt			0 1 2 N/A # of attempts: ___ Notes:
2. Training Trainer responses →			Trainer: Respond only after prompt (+) Parent waits 3 sec to prompt (-) Parent prompts immediately, waits at least 5 sec to prompt, or doesn't prompt			0 1 2 N/A # of attempts: ___ Notes:
3. Training Trainer responses →	Trainer: Look away until parent gains interest, then comply (+) Parent waits for interest or tries to gain interest (-) Parent prompts request before trainer shows interest					0 1 2 N/A # of attempts: ___ Notes:
4. Training Trainer responses →			Trainer: Respond with wrong request (grabbing at item) before prompt			0 1 2 N/A # of attempts: ___

			(+) Parent prompts correct request after wrong request (-) Parent gives item, prompts immediately, waits at least 5 sec to prompt, or doesn't prompt		Notes:
5. Training Trainer responses →			Trainer: Respond with correct request before prompt (+) Parent gives item immediately (-) Parent prompts immediately, gives item after 5 sec, or doesn't prompt		0 1 2 N/A # of attempts: ___ Notes:

SECTION 4	**Total score: _____** **Divide total parent score by total available points per section**	Total available points____ Total parent score ____

Any information, questions, or instances of feedback that parents presented in the prior section:

Number of questions asked by parent: __

BREAK

5. Child-led teaching Missed opp video exercise S42	Provided at least 1 missed opportunities during for Missed Opportunity video exercise	0 1 2 N/A	
CLT Exercise S43	Stated at least 1 desired item/activity	0 1 2 N/A	
	Stated at least 1 item/activity they could block/interrupt	0 1 2 N/A	
	Stated at least 1 item/activity they could end	0 1 2 N/A	
CLT-role plays S44	Performed the green step correctly on CLT role play (2 trials)	See below for scoring	

PARENT 1

Parent responses →	Look for interest	Prompt response	Wait 3 sec	Gives item	SCORING
1. Demonstration *Trainer responses* →		Trainer: Pick up toys, and put them down quickly. Next, try to play with a wind-up-toy that you cannot turn on (sign help).		Parent: winds up toy, gives	0 1 2 N/A # of attempts: __ Notes:

		(+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt (waited longer than 10 sec of trainer trying to wind-up toy)		to Trainer	
2. Training *Trainer responses* →		Trainer: Try to <u>wind up toy</u> again. Respond correctly only after parent prompts. (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt			0 1 2 N/A # of attempts: __ Notes:
	Total score: _____ **Divide total parent score by total available points per section**		Total available points____ Total parent score ____		
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __					
6. Adjusting teaching S45	Answered at least one questions correctly during "When to adjust exercise"		0 1 2 N/A		
SECTION 6	**Total score: _____** **Divide total parent score by total available points per section**		Total available points____ Total parent score ____		
Any information, questions, or instances of feedback that parents presented in the prior section:					
7. Frequently asked questions S49	Answered at least one question correctly during "Problem Behavior Scenario"		0 1 2 N/A		
SECTION 7	**Total score: _____** **Divide total parent score by total available points per section**		Total available points____ Total parent score ____		
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __					
REVIEW PLT-Role plays S51	Performed the green step correctly during PLT role play- trial 1-5				See below for scoring

PARENT 1						
Parent responses →	**Hold up item**	**Look for interest**	**Prompt response**	**Wait 3 sec**	**Give item immediately**	**SCORING**
1. Demonstration *Trainer responses* →			Trainer: Comply after prompt (+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt			0 1 2 N/A # of attempts ___ Notes:
2. Training *Trainer responses* →			Trainer: Respond only after prompt (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt			0 1 2 N/A # of attempts ___ Notes:
3. Training *Trainer responses* →	Trainer: Push candy away (+) Parent waits for interest or tries to gain interest (-) Parent prompts request before trainer shows interest					0 1 2 N/A # of attempts___ Notes:
4. Training *Trainer responses* →			Trainer: Respond with wrong request before prompt (reach for candy and whine) (+) Parent prompts correct request after wrong request (-) Parent gives item, prompts immediately, or waits at least 5 sec to prompt			0 1 2 N/A # of attempts___ Notes:
5. Training *Trainer responses* →			Trainer: Respond with correct request before prompt			0 1 2 N/A # of attempts___

			(+) Parent gives item immediately (-) Parent prompts immediately or waits at least 5 sec to give item		Notes:

CLT-Role Plays S51	Performed the green step correctly during 1st CLT role play- (1 trial)				See below for scoring
PARENT 1					
Parent responses →	Look for interest	Prompt response	Wait 3 sec	Gives item	SCORING
1. Demonstration *Trainer responses* →	Trainer: Touch each toy, start playing with Legos. (+) Parent removes other Legos and prompts immediately (-) Parent waits at least 3 sec to prompt				0 1 2 N/A # of attempts___ Notes:
2. Training *Trainer responses* →	Trainer: Keep playing with Legos, reach for more. (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt				0 1 2 N/A # of attempts___ Notes:
CLT- ALL DONE Role Plays S51	Performed the green step correctly during 1st CLT role play- trial 1				See below for scoring
PARENT 1					
Parent responses →	Look for interest	Prompt response	Wait 3 sec	Gives item	SCORING
1. Demonstration *Trainer responses* →	Trainer: Throw the Legos (one-by-one). (+) Parent prompts "all done," or tries to redirect to				0 1 2 N/A # of attempts___ Notes:

	another toy (either gives an alternate toy to the trainer, or tries to gain their interest in an alternate toy). (-) Parent waits at least 3 sec to prompt			
S51 **SECTION 7**	**Total score: _____** **Divide total parent score by total available points per section**	Total available points____ Total parent score ____		
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __				
TOTAL	**A total score of X *(80%) and higher reflects adequate treatment fidelity. Total score: Divide total parent score by total available points**	Total available points____ Total parent score ____		

Parent Checklist (PARENT 2)

The following scale should be used to rate the degree to which the ***parent*** goal was accomplished.

- Write the # of attempts in far-right column; score only the LAST attempt at the answer. Circle N/A if opportunity didn't occur (e.g., parent didn't ask a question), and don't include points in the total.
- Role play scoring: The (+) or (-) in the green box will indicate if the parent correctly performed the relevant step. Score only the performance on green step.

0 = Parent did not demonstrate skill or understanding (e.g., even after multiple attempts, the parent did not correctly perform the role play, or answer a question during an exercise)
1 = Goal was partially achieved (e.g., 2 out of 5 steps were performed correctly during a role play)
2 = Goal was fully achieved (e.g., the parent performed correctly in the final attempt at the goal)

Role plays =BLUE
Target step within role play = Green
S# = slide number that correlates with Parent Fidelity measure

Section	Parent Fidelity measure	Rating	Attempt # / Notes
3. Preparing to teach S10	Read aloud 5 items that were used during baseline	0 1 2 N/A	
S10	Generated 1-3 "preferred items" for their child and added them to "Your Child's Communication Profile"	0 1 2 N/A	
-Identifying the type of communication your child will use to request S12	Read aloud type of communication their child used in baseline	0 1 2 N/A	
S12-13	Generated new "type of communication" for their child and added it to "Your Child's Communication Profile" (unless they already had one)	0 1 2 N/A	
- Determining how to prompt your child S14	Generated "type of prompt" for their child and added it to "Your Child's Communication Profile"	0 1 2 N/A	
S14	Read aloud child's prompt type	0 1 2 N/A	
S15	Correctly prompted within 5 seconds during role play using child-specific prompt (1 trial)	0 1 2 N/A	

-Determining better and lesser approximations of requests S18	Generated "better and lesser approximations" for their child and added it to "Your Child's Communication Profile"	0 1 2 N/A	
S20 Mock teaching	Stated the answer to at least 1 question correctly during exercise	0 1 2 N/A	
SECTION 3	**Total score: _____** **Divide total parent score by total available points per section**	Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __			
4. Parent-led teaching S24	Stated "how child lets them know they want something"	0 1 2 N/A	
S26	Performed correctly during role play **PARENT 2:** (+) Parent keeps item out of reach (-) Parent lets you grab item	0 1 2 N/A	
Practicing when to prompt S29	Parent correctly answered at least 2 questions during "deciding when to **vocally** prompt exercise"	0 1 2 N/A	
S30	Stated the correct answer to at least 2 questions during "deciding when to **manually** prompt exercise"	0 1 2 N/A	
S31	Performed correctly during PLT role play **TRIAL 1- PARENT 2:** (+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt OR doesn't prompt	0 1 2 N/A	
S31	Performed correctly during PLT role play **TRIAL 2- PARENT 2:** (+) Parent waits at least 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt, or doesn't prompt	0 1 2 N/A	
Parent-led teaching exercise (watching videos)	Wrote correct answer for Video 1	0 1 2 N/A	
	Wrote correct answer for Video 2	0 1 2 N/A	
	Wrote correct answer for Video 3	0 1 2 N/A	

S34						
PLT Role Plays S35	**PARENT 2** Performed the green step correctly and during PLT role play- trial 1 -5				See below for scoring	
Parent responses →	**Hold up item**	**Look for interest**	**Prompt response**	**Wait 3 sec**	**Give item immediately**	**SCORING**
1. Demonstration *Trainer responses* →			Trainer: Comply after prompt (+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt			0 1 2 N/A # of attempts_____ Notes:
2. Training Trainer responses →			Trainer: Respond with wrong request (grabbing at item) before prompt (+) Parent prompts correct request after wrong request (-) Parent gives item, prompts immediately, waits at least 5 sec to prompt, or doesn't prompt			0 1 2 N/A # of attempts_____ Notes:
3. Training Trainer responses →	Trainer: grab at item (+) Parent keeps item out of reach (-) Parent lets you grab item					0 1 2 N/A # of attempts_____ Notes:
4. Training Trainer responses →			Trainer: Respond only after prompt (+) Parent waits 3 sec to prompt			0 1 2 N/A # of attempts_____ Notes:

			(-) Parent prompts immediately, waits at least 5 sec to prompt, or doesn't prompt		
5. Training Trainer responses →			Trainer: Respond with correct request before prompt (+) Parent gives item immediately (-) Parent prompts immediately, or waits at least 5 sec to give item.		0 1 2 N/A # of attempts_____ Notes:

SECTION 4	**Total score: _____** **Divide total parent score by total available points per section**	Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __			
BREAK			
5. Child-led teaching Missed opp video exercise S42	Provided at least 1 missed opportunities during for Missed Opportunity video	0 1 2 N/A	
CLT Exercise S43	Stated at least 1 desired item/activity	0 1 2 N/A	
	Stated at least 1 item/activity they could block/interrupt	0 1 2 N/A	
	Stated at least 1 item/activity they could end	0 1 2 N/A	
CLT-role plays S44	Performed the green step correctly on CLT role play (2 trials)	See below for scoring	

PARENT 2					
Parent responses →	Look for interest	Prompt response	Wait 3 sec	Gives item	SCORING
1. Demonstration *Trainer responses* →		Trainer: Pick up a couple of toys, and put them down quickly. Next, pick up crayons and start coloring. (+) Parent takes other crayons and prompts "crayon" immediately (-) Parent prompts toy that trainer quickly put down/or waits at least 3 sec to prompt		Parent: winds up toy, gives to Trainer	0 1 2 N/A # of attempts: __ Notes:

2. Training *Trainer responses* →		Trainer: Reach for another crayon. Respond correctly after parent prompts. (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt		0 1 2 N/A # of attempts: __ Notes:
	Total score: _____ **Divide total parent score by total available points per section**		Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __				
6. Adjusting teaching S45	Answered at least one questions correctly during "When to adjust exercise"		0 1 2 N/A	
SECTION 6	**Total score: _____** **Divide total parent score by total available points per section**		Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section:				
7. Frequently asked questions S49	Answered at least one question correctly during "Problem Behavior Scenario"		0 1 2 N/A	
SECTION 7	**Total score: _____** **Divide total parent score by total available points per section**		Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __				
REVIEW PLT-Role plays S51	Performed the green step correctly during PLT role play- trial 1-5			See below for scoring

PARENT 2

Parent responses →	**Hold up item**	**Look for interest**	**Prompt response**	**Wait 3 sec**	**Give item immediately**	**SCORING**
1. Demonstration *Trainer responses* →			Trainer: Comply after prompt			0 1 2 N/A # of attempts___ Notes:

			(+) Parent prompts immediately (-) Parent waits at least 3 sec to prompt			
2. Training *Trainer responses* →			Trainer: Respond with wrong request before prompt (grab at puzzle piece while whining) (+) Parent prompts correct request after wrong request (-) Parent gives item, prompts immediately, or waits at least 5 sec to prompt			0 1 2 N/A # of attempts___ Notes:
3. Training *Trainer responses* →	Trainer: Grab at puzzle (+) Parent keeps item out of reach (-) Parent lets you grab item					0 1 2 N/A # of attempts___ Notes:
4. Training *Trainer responses* →			Trainer = Comply after prompt (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt			0 1 2 N/A # of attempts___ Notes:
5. Training *Trainer responses* →			Trainer: Respond with correct request before prompt (+) Parent gives item immediately (-) Parent prompts immediately or waits at least 5 sec to give item			0 1 2 N/A # of attempts___ Notes:
CLT-Role Plays S51	Performed the green step correctly during 1st CLT role play (2 trials)					See below for scoring
PARENT 2						

Parent responses →	Look for interest	Prompt response	Wait 3 sec	Gives item	SCORING
1. Demonstration *Trainer responses* →	Trainer: Pick up a couple of toys, put them down quickly, pick up crayons and start coloring. (+) Parent takes other pieces and prompts "crayon" immediately (-) Parent prompts toy that trainer quickly puts down/or waits at least 3 sec to prompt				0 1 2 N/A # of attempts___ Notes:
2. Training *Trainer responses* →	Trainer: Keep coloring, reach for more crayons. (+) Parent waits 3 sec to prompt (-) Parent prompts immediately or waits at least 5 sec to prompt				0 1 2 N/A # of attempts___ Notes:
CLT-ALL DONE- Role Plays S51	Performed the green step correctly during 1st CLT role play-trial 1			See below for scoring	
PARENT 2					
	Look for interest	Prompt response	Wait 3 sec	Give item	SCORING
		Trainer: Rip up a page of a coloring book. (+) Parent prompts "all done," or tries to redirect to another toy (either gives an alternate toy to the trainer, or tries to gain their interest in an alternate toy). (-) Parent waits at least 3 sec to prompt			0 1 2 N/A # of attempts___ Notes:
S51 **SECTION 7**	**Total score:_____** **Divide total parent score by total available points per section**			Total available points____ Total parent score ____	
Any information, questions, or instances of feedback that parents presented in the prior section: Number of questions asked by parent: __					
TOTAL	**A total score of X *(80%) and higher reflects adequate treatment fidelity.** **Total score: Divide total parent score by total available points**			Total available points____ Total parent score ____	

Appendix K

Post-Workshop Trainer Satisfaction Survey

Select the response that best characterizes how you feel about the statement:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I feel prepared to train parents to use incidental teaching after attending the workshop.	1	2	3	4	5

Please explain your rating on the prior question regarding how prepared you felt after the workshop:

_____
_____
_____

2. The workshop was well organized.	1	2	3	4	5

Please list any additional comments on the strengths and weaknesses of how the workshop was organized (e.g., amount of time spent on each section of the manual, amount of time spent on each training activity, number of training videos):

_____
_____
_____

3. The content of the workshop was thorough enough for me to understand incidental teaching.	1	2	3	4	5

Please list any additional comments on the strengths and weaknesses of the content of the workshop (e.g., clarity of presentation or written materials, usefulness of each training activity, quality of training videos):

_____
_____
_____
_____

Appendix L

Post-Training Trainer Satisfaction Survey

Select the response that best characterizes how you feel about the statement:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. The format of the manual was straightforward and easy to navigate. Additional comments:	1	2	3	4	5
2. The content of the manual was easy to understand. Additional comments:	1	2	3	4	5
3. The PowerPoint helped me further my understanding of training procedures. Additional comments:	1	2	3	4	5
4. The videos in the training helped me further my understanding of incidental teaching. Additional comments:	1	2	3	4	5
5. The quality of role plays were thorough enough to practice and give feedback on the use of incidental teaching. Additional comments:	1	2	3	4	5
6. I am confident in training parents to use incidental teaching procedures. Additional comments:	1	2	3	4	5
7. I would recommend the manual to other trainers. Additional comments:	1	2	3	4	5
8. The training was thorough enough for parents to understand and practice incidental teaching at home. Additional comments:	1	2	3	4	5
9. I would recommend the manual to other trainers. Additional comments:	1	2	3	4	5

Appendix M

Parent and Child Information

PARENT/CAREGIVER INFORMATION	Name:

WHAT IS YOUR AGE?

☐ 25 or under ☐ 26-40 ☐ 41-55 ☐ 56 or older

WHAT IS YOUR GENDER?

☐ Female ☐ Male

WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?

☐ Grammar school ☐ High school or equivalent ☐ Some college ☐ Bachelor's degree

☐ Master's degree ☐ Doctoral degree ☐ Professional degree (MD, JD, etc.) ☐ Other _____

HOW MANY HOURS OF PARENT TRAINING HAVE YOU RECEIVED PRIOR TO THIS WORKSHOP?

☐ I have not received parent training ☐ 1-4 hours ☐ 5-9 hours ☐ 10-14 hours

☐ 15-19 hours ☐ 20-25 hours

CHILD INFORMATION	Child's name	Child's D.O.B.

IF MY CHILD WANTS SOMETHING HE OR SHE WILL MOST LIKELY:

☐ Cry/whine ☐ Pull me to the item ☐ Point to the item ☐ Make a gesture or a sign

☐ Ask for the item ☐ My child does not let me know he or she wants something

PLEASE INDICATE THE NUMBER OF WORDS YOUR CHILD SAYS CLEARLY.

☐ None ☐ 1-5 words ☐ 5-10 words ☐ 11-20 words

☐ More than 20 words

PLEASE INDICATE THE TYPE(S) OF SERVICES YOUR CHILD HAS RECEIVED.

☐ Speech therapy
How long (in months)_____
Hours per week_____

☐ OT
How long (in months)_____
Hours per week_____

☐ Physical therapy
How long (in months)_____
Hours per week_____

☐ Early intervention
How long (in months)_____
Hours per week_____

☐ Other: Please specify_____
How long (in months)_____
Hours per week_____

PLEASE INDICATE THE DIAGNOSES YOUR CHILD HAS RECEIVED.

☐ Autism ☐ Down syndrome ☐ Language delay ☐ Other_____

Please list the items your child currently asks for (requests), and list how he or she asks for that item.

Item (e.g., raisin)	0 = problem behavior or whine 1 = sign or speech with problem behavior (e.g., saying "raisin" and whining) 2 = general point, sign, or PECS (e.g., "more") 3 = general speech request (e.g., "more") 4 = specific request with sign or PECS (e.g., cracker sign, cracker picture) 5 = specific request with speech (e.g, "cracker") 6 = phrase or sentence (e.g., "orange cracker" or "I want cracker").

Appendix N

Child Mand Assessment Data Sheet

Date:	Therapist:	Primary or Secondary
Session #:	Participant:	
Condition:	Data collector:	

Directions: Present the item to the child one at a time within the child's vision, but out of the child's reach. Repeat this three times per item. Provide the item for 30 s following a mand or until the edible was consumed. Record data on the child's independent response within the first 20 s after the trial has started. If the child does not approach the item, give the item to the child to sample (i.e., eat or play) for 30 s and re-present the item in a new trial. **Only approach trials count toward 3-trial total per item.** If possible, run sessions in a room with limited distractors (e.g., kitchen).

- If the child does not approach an item for a second trial, ask the parent to nominate a different item for 3 additional trials. Record under: Replacement for item.
- Additional space has been provided for parent-taught mands under "Bonus mand." Bonus mands are assessed during post-training Mand Assessments.
- Record data on transfer trials on spaces marked as "ME-multiple exemplar" under Trial.
- Record any anecdotal reports of novel mands on the bottom of the data sheet.
- If two appropriate responses occur simultaneously (e.g., if child points while saying "ba"), score the more complex mand ("ba").
- Termination criteria: Child engages in SIB (e.g., hand-to-head) or if parent requests termination.
- If the child requests termination/attempts to leave the chair, say, "Nice asking. We will take a break in a few minutes." Honor the third request or attempt to escape and provide a 2 min break.

Scoring for Topography (Mand score):

- No opportunity = Score for third trial if first two trials scored 0 for an item
- 0 = Problem behavior or whine (e.g., whining without attempt to look or reach for item)
- 0C = A response other than a mand that may be in compliance with another program (e.g., gross motor imitation, saying "yes")
- 1 = Non-vocal or vocal mand with problem behavior (e.g., whining while saying "more", looking at item for more than 3 s while crying)
- 2 = Looking for more than 3 s or grabbing towards the item without problem behavior
- 3 = Pointing to the item or unintelligible response without problem behavior
- 4 = Non-vocal generalized mand (e.g., sign, modified sign, or PECS)
- 5 = Vocal approximation of generalized mand (e.g., ba for cookie, ba for car)
- 6 = Precise vocal generalized mand (e.g., "more" or "help")
- 7 = Non-vocal approximation of specific mand (e.g., modified sign for cracker)
- 8 = Vocal approximation of specific mand (e.g., buh for bubbles, cah for car)
- 9 = Precise non-vocal specific mand (e.g., PECS for toy truck or sign for candy)
- 10 = Precise vocal specific mand (e.g, "cracker")
- 11 = Non-vocal, framed or elaborated mand (e.g., PECS for "I want juice")
- 12 = Vocal approximation of framed or elaborated mand (e.g., "eh wah ookie")
- 13 = Vocal, framed or elaborated mand, or mand with social niceties (e.g., "orange cracker," "more, please," "more grapes," or "I want puzzle")

Mean complexity score: Standard Deviation: IOA:

$\frac{mand\ score}{number\ of\ trials} - =$ $\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2}$ $\frac{\#\ of\ agreements}{total\ \#} \times 100 = - \times 100 =$

Child Mand Assessment Data Sheet

Date:	Therapist:	Primary or Secondary
Session #:	Participant:	
Condition:	Data collector:	

Item	Trial	Topography 0-11	Description of Topography	Notes
i.e., cookie, toy		*i.e., record 9 for vocal specific mand (e.g, "cracker")*	*i.e., "cah" for car or palms together for "more"*	*i.e., child quickly scrolled through signs or rapidly requested for an item, form of problem behavior*
1. _____	1			
	2			
	3			
	ME1			
	ME2			
Replacement for item #1 _____	1			
	2			
	3			
2. _____	1			
	2			
	3			
	ME1			
	ME2			
Replacement for item #2 _____	1			
	2			
	3			
3. _____	1			
	2			
	3			
	ME1			
	ME2			
Replacement for item #3 _____	1			
	2			
	3			
4. _____	1			
	2			
	3			
	ME1			
	ME2			
Replacement for item #4	1			
	2			

_____	3			
5._____	1			
	2			
	3			
	ME1			
	ME2			
Replacement for item #5 _____	1			
	2			
	3			
Did the parent teach their child to request items beyond the items initially selected from the RAISD? If yes, then run trials for bonus mands. If no, skip the section below. No bonus mands for baseline.				
Bonus mand 6._____	1			
	2			
	3			
Bonus mand 7._____	1			
	2			
	3			
Bonus mand 8._____	1			
	2			
	3			
		Total:_____		
Multiple exemplar total: _____			Mand score: _____	STDEV: _____

Anecdotal report: Did the parents note any other requests that we cannot test at home (e.g., playground) or requests that the parents didn't explicitly teach?
•
•
•

Appendix O

Parent Incidental Teaching Assessment

Trainee name: _____ Observer name: _____
Date: _____ Session type: Baseline or Postest
Primary or secondary: _____ Session #:_____

Directions:
BASELINE: Provide examples of potential reinforcers (e.g., food, toys); assist the parent in determining 5 items for his or her child to request; place the items in a container.

POST-TRAINING: Have the parent use items they used during baseline.

Instruct the parent to "show me how you'd teach your child to request each item." A trial starts when the parent takes the item out of the container; a trial ends when the parent gives the child the item, or places the item back in the container or out of the child's reach. *Unless the item is food. If using food, run 5 trials with the same edible.

***IF A PARENT PROMPTS MULTIPLE RESPONSE FORMS IN THE SAME SESSION, always score prescribed response (e.g., parent prescribed vocal response, and also prompted PECS- score vocal response). IF A PARENT PROMPTS ONLY ONE RESPONSE FORM IN A SESSION BUT IT DOES NOT MATCH THE PRESCRIBED RESPONSE, YOU SHOULD STILL SCORE THOSE TEACHING TRIALS.**

Ask the parent what type of request they will be teaching their child.
Target response (e.g., sign, point, spoken word, picture exchange) =_____

Record (**+**) if parent behavior is performed as specified.
Record (**–**) if parent does not perform as specified.
Record **NA** if an item is not applicable.

PARENT-LED

Parent Response	**Example**	**Trial 1** Item: ____	**Trial 2** Item: ____	**Trial 3** Item: ____	**Trial 4** Item: ____	**Trail 5** Item: ____	**Total (+)**
1 Arranges environment	*Parent restricts access to an item (e.g., holds it up but out of the child's reach) and ensures child demonstrates interest by attending to the parent or item (e.g., child looks at parent or item; child reaches for the item). **If the child is not attending or approaching the item during Step 1, and parent continues to teach with that item (i.e., doesn't present a new item), score (-) on step 1.* *If the parent restricts access to the same item on a THIRD trial after the child does not demonstrate interest on two consecutive trials, score (-).* **If the child emits the prompted response, and doesn't engage with the item after TWO attempts, and parent doesn't present a new item, score (-) on Step 1 on the third trial.*						**/5**
2. Correctly uses prompts if applicable	Provides an appropriate prompt if needed (manual guidance if teaching a sign, vocal model if teaching spoken word) Doesn't provide a prompt if child responds correctly.						**/5**
3. Provides immediate consequence	Gives child item following student's target response OR Doesn't give child the item following an incorrect response (less complex than target, whine, mand for another item). Delivers reinforcer within 5 seconds of child response and allows a minimum of 10 sec of free access without additional demands.						**/5**
4. Does <u>not</u> deliver extraneous prompts	Refrains from unnecessary verbal prompts before or after delivery of the item (e.g., does not ask "What do you want?" or "say thank you"). **Circle number of extraneous prompts*	0-3 4-6 7-9 10+	0-3 4-6 7-9 10+	0-3 4-6 7-9 10+	0-3 4-6 7-9 10+	0-3 4-6 7-9 10+	**/5**
Total							**/20**

Directions: Instruct the parent to "play with your child for 5 minutes. Teach him to request items or activities that he seems to enjoys or teach him to request to stop playing with an item or activity that he doesn't seem to enjoy."
Stop recording trial after 5 minutes OR after 10 trials.

Record (**+**) if parent behavior is performed as specified.
Record (**–**) if parent does not perform as specified.
Record **NA** if an item is not applicable.

- Parent restricts access to an item (e.g., holds it up but out of the child's reach) and ensures child demonstrates interest by attending to the parent or item (e.g., child looks at parent or item; child reaches for the item).

*If the child is not attending or approaching the item during Step 1, and parent continues to teach with that item (i.e., doesn't present a new item), score (-) on step 1.

*If the parent restricts access to the same item on a THIRD trial after the child does not demonstrate interest on two consecutive trials, score (-)

*If the child emits the prompted response, and doesn't engage with the item after TWO attempts, and parent doesn't present a new item, score (-) on Step 1 on the third trial.

CHILD-LED

PARENT RESPONSE	Example	Trial 1 ITEM ____	Trial 2 ____	Trial 3 ____	T4 ____	T5 ____	T6 ____	T7 ____	T8 ____	T9 ____	T10 ____	Total (+)
1.Follows child's lead to teach a request	-To access a preferred item -To Continue an ongoing activity -Remove an undesired item/activity (*see above for additional explanation)											/
2. Correctly uses prompts if applicable	Delivers a prompt appropriate to the child's target response (e.g., manually guides or models a sign)											/
3. Provides immediate consequence	Gives child item following student's prescribed response OR Doesn't give child the item following an incorrect response (less complex than prescribed, whine, mand for another item). *Delivers reinforcer within 5 seconds of child response and allows a minimum of 10 sec of free access without additional demands.											/
4. Does <u>not</u> deliver extraneous prompts	Refrains from unnecessary verbal prompts before or after delivery of the item (e.g., does not ask "What do you want?" or "say thank you").	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	___ 0-3, 4-6 7-9 10+	/
												Total /

Appendix P

Post-Training Parent Satisfaction Survey

Select the response that best characterizes how you feel about the statement:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I would recommend the training to other parents.	1	2	3	4	5
2. The content of the manual was easy to understand.	1	2	3	4	5
3. The length of the training was enough to learn and prepare for using incidental teaching at home.	1	2	3	4	5
4. The videos used in the training helped me further my understanding of incidental teaching.	1	2	3	4	5
5. The role plays made me feel more confident in using incidental teaching at home.	1	2	3	4	5
6. The format of the manual was easy to navigate.	1	2	3	4	5
7. I am confident in teaching requests to my child using incidental teaching.	1	2	3	4	5
8. Overall, the training was easy to understand.	1	2	3	4	5

Please list any additional comments on the strengths and weaknesses of the content of the manual:

_____

_____

____

Please list any additional comments on the strengths and weaknesses of the training:

_____

_____

Appendix Q

1-Month Post-Training Parent Satisfaction Survey

Select the response that best characterizes how you feel about the statement:
1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I will continue to use incidental teaching to teach my child to communicate.	1	2	3	4	5

Please explain your rating on the prior question regarding the usefulness of incidental teaching:

_____
_____

2. Teaching requests has positively affected my child's ability to request.	1	2	3	4	5
3. I am confident in teaching communication to my child using incidental teaching.	1	2	3	4	5
4. I currently use incidental teaching often to teach my child communication.	1	2	3	4	5
5. I would recommend the training to other parents.	1	2	3	4	5
6. The content of the manual allowed me to refresh my memory about incidental teaching strategies.	1	2	3	4	5

Please list any additional comments on the strengths and weaknesses of the content of the manual:

_____
_____

Please list the items your child currently asks for (requests), and list how he or she asks for that item:

_____
_____
____

Item (e.g., raisin)	How: 0 = problem behavior or whine 1 = sign or speech with problem behavior (e.g., saying "raisin" and whining) 2 = general point, sign, or PECS (e.g., "more") 3 = general speech request (e.g., "more") 4 = specific request with sign or PECS (e.g., cracker sign, cracker picture) 5 = specific request with speech (e.g, "cracker") 6 = phrase or sentence (e.g., "orange cracker" or "I want cracker").