Module: Naturalistic Intervention

Evidence-Based Practice Brief: Naturalistic Intervention

This evidence-based practice brief on naturalistic intervention includes the following components:

1. **Overview, which gives a quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, settings for instruction, and additional literature documenting its use**
2. **Steps for Implementation, detailing how to implement the practice in a practitioner-friendly step-by-step process**
3. **Implementation Checklist, to be used to monitor the fidelity with which the practice is implemented**
4. **Evidence Base Summary, which details the criteria used by the National Professional Development Center on Autism Spectrum Disorders for inclusion as an evidence-based practice and the specific studies that met the criteria for this practice**
5. **Naturalistic intervention data sheets**

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Overview of Naturalistic Intervention

Franzone, E. (2009). *Overview of naturalistic Intervention*. Madison, WI: National Professional Development Center on Autism Spectrum Disorders, Waisman Center, University of Wisconsin.

Naturalistic intervention is a collection of practices including environmental arrangement, interaction techniques, and strategies based on applied behavior analysis principles. These practices are designed to encourage specific target behaviors based on learners' interests by building more complex skills that are naturally **r**einforcing and appropriate to the interaction.

Evidence

Naturalistic intervention meets the evidence-base criteria with eight single-subject and two randomized group design studies, demonstrating its effectiveness for promoting communication and social skills for learners at the preschool, elementary school, and middle/high school levels.

With what ages is naturalistic intervention effective?

Naturalistic intervention can be used effectively with learners with ASD regardless of cognitive level and/or expressive language skills. The evidence base shows that naturalistic intervention is effective for learners at the preschool, elementary school, and middle/high school levels.

What skills or intervention goals can be addressed by naturalistic intervention?

The evidence base demonstrates that naturalistic intervention can be used to facilitate communication and social skills, which may include things like expressive vocabulary, speech intelligibility, use of gesture, shared attention, and turn-taking.

In what settings can naturalistic intervention be effectively used?

By definition, naturalistic intervention relies on materials and an environment that is reflective of the learner's interests and natural environment. It may be used in school, home, or community settings.

Evidence Base

The studies cited in this section provide the basis upon which this practice was determined to meet the NPDC on ASD's criteria as an evidence-based practice. This list is not exhaustive and other quality studies may exist but were not found in our search.

Preschool

Ingersoll, B., Lewis, E., & Kroman, E. (2007). Teaching the imitation and spontaneous use of descriptive gestures in young children with autism using a naturalistic behavioral intervention. *Journal of Autism and Developmental Disorders*, *37*, 1446-1456.

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Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 241-251.

McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal teaching via peer incidental teaching. *Journal of Applied Behavior Analysis, 25*, 117-126.

Yoder, P., & Stone, W. L. (2006). A randomized comparison of the effect of two prelinguistic communication interventions on the acquisition of spoken communication in preschoolers with ASD. *Journal of Speech, Language, and Hearing Research, 49*, 698-711.

Elementary

Charlop, M. H., Schreibman, L., & Thibodeau, M. G. (1985). Increasing spontaneous verbal responding in autistic children using a time delay procedure. *Journal of Applied Behavior Analysis, 18*(2), 155-166.

Charlop, M. H., & Walsh, M. E. (1986). Increasing autistic children's spontaneous verbalizations of affection: An assessment of time delay and peer modeling procedures. *Journal of Applied Behavior Analysis, 19*(3), 307-314.

Charlop, M. H., & Trasowech, J. E. (1991). Increasing autistic children's daily spontaneous speech. *Journal of Applied Behavior Analysis, 24*(4), 747-761.

Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 241-251.

Laski, K. E., Charlop, M. H., & Schreibman, L. (1988). Training parents to use the natural language paradigm to increase their autistic children's speech. *Journal of Applied Behavior Analysis, 2*(4), 391-400.

McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1985). The facilitative effects of incidental teaching on preposition use by autistic children. *Journal of Applied Behavior Analysis, 18*, 17-31.

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Middle/High

Hamilton, B. L., & Snell, M. E. (1993). Using the milieu approach to increase spontaneous communication book use across environments by an adolescent with autism. *Augmentative and Alternative Communication*, *9*, 259-272.

Selected Additional References

Hancock, T. B., & Kaiser, A. P. (2002). The effects of trainer-implemented enhanced milieu intervention on the social communication of children with autism. *Topics in Early Childhood Special Education, 22*(1), 39-54.

Hanock, T. B. & Kaiser, A. P. (2006). Enhanced milieu teaching. In McCauley R. J. & Fey, M. E. (Ed.), *Treatment of language disorders in children* (pp. 203-229). Baltimore: Paul H. Brooks Publishing.

Hwang, B., & Hughes, C. (2000). The effects of social interactive training on early social communicative skills of children with autism. *Journal of Autism and Developmental Disorders, 30*(4), 331-343.

Ingenmey, R., & Van Houten, R. (1991). Using time delay to promote spontaneous speech in an autistic child. *Journal of Applied Behavior Analysis, 24*(3), 591-596.

Kaiser, A. P., Hancock, T. B., & Nietfeld, J. P. (2000). The effects of parent-implemented enhanced milieu intervention on the social communication of children who have autism. *Early Education and Development, 11*(4), 423-446.

Koegel, R. L., O'Dell, M. C., & Koegel, L. K. (1987). A natural language intervention paradigm for nonverbal autistic children. *Journal of Autism and Developmental Disorders, 17* (2), 187-200.

Matson, J. L., Sevin, J. A., Box, M. L., & Francis, K. L. (1993). An evaluation of two methods for increasing self-initiated verbalizations in autistic children. Journal of Applied Behavior Analysis, *26*(3), 389-398.

Neef, N. A., Walters, J., & Egel, A. L. (1984). Establishing generative yes/no response in developmentally disabled children. *Journal of Applied Behavior Analysis, 17*(4), 453-460.

Wong, C. S., Kasari, C., Freeman, S., & Paparella, T.. (2007).The acquisition and generalization of joint attention and symbolic play skills in young children with autism. *Research and Practice for Persons with Severe Disabilities, 32*(2), 101-109.

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Evidence Base for Naturalistic Intervention

The National Professional Development Center on ASD has adopted the following definition of evidence-based practices.

To be considered an evidence-based practice for individuals with ASD, efficacy must be established through peer-reviewed research in scientific journals using:

- randomized or quasi-experimental design studies. Two high quality experimental or quasi-experimental group design studies,
- single-subject design studies. Three different investigators or research groups must have conducted five high quality single subject design studies, or
- combination of evidence. One high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies).

High quality randomized or quasi experimental design studies do not have critical design flaws that create confounds to the studies, and design features allow readers/consumers to rule out competing hypotheses for study findings. High quality in single subject design studies is reflected by a) the absence of critical design flaws that create confounds and b) the demonstration of experimental control at least three times in each study.

This definition and criteria are based on the following sources:

Horner, R., Carr, E., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single subject research to identify evidence-based practice in special education. *Exceptional Children, 71,* 165-180.

Nathan, P., & Gorman, J. M. (2002). *A guide to treatments that work.* NY: Oxford University Press.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. D., Thompson, B., & Harris, K. (2004). *Quality indicators for research in special education and guidelines for evidence-based practices: Executive summary.* Arlington, VA: Council for Exceptional Children Division for Research.

Rogers, S. J., & Vismara, L. A. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology*, *37*(1), 8-38.

Using these criteria, the empirical studies that follow provided documentation for supporting Naturalistic Strategies as an evidence-based practice. This list is not exhaustive; other quality studies may exists that were not included.

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Preschool

Ingersoll, B., Lewis, E., & Kroman, E. (2007). Teaching the imitation and spontaneous use of descriptive gestures in young children with autism using a naturalistic behavioral intervention. *Journal of Autism and Developmental Disorders*, *37*, 1446-1456.

Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 241-251.

McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal teaching via peer incidental teaching. *Journal of Applied Behavior Analysis, 25*, 117-126.

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Elementary

Charlop, M. H., Schreibman, L., & Thibodeau, M. G. (1985). Increasing spontaneous verbal responding in autistic children using a time delay procedure. *Journal of Applied Behavior Analysis, 18*(2), 155-166.

Charlop, M. H., & Walsh, M. E. (1986). Increasing autistic children's spontaneous verbalizations of affection: An assessment of time delay and peer modeling procedures. *Journal of Applied Behavior Analysis, 19*(3), 307-314.

Charlop, M. H., & Trasowech, J. E. (1991). Increasing autistic children's daily spontaneous speech. *Journal of Applied Behavior Analysis, 24*(4), 747-761.

Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 241-251.

Laski, K. E., Charlop, M. H., & Schreibman, L. (1988). Training parents to use the natural language paradigm to increase their autistic children's speech. *Journal of Applied Behavior Analysis, 2*(4), 391-400.

McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1985). The facilitative effects of incidental teaching on preposition use by autistic children. *Journal of Applied Behavior Analysis, 18*, 17-31.

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Middle/High

Hamilton, B. L., & Snell, M. E. (1993). Using the milieu approach to increase spontaneous communication book use across environments by an adolescent with autism. *Augmentative and Alternative Communication*, *9*, 259-272.

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Naturalistic Intervention: Steps for Implementation

Franzone, E. (2009). *Naturalistic intervention: Steps for implementation.* Madison, WI: The National Professional Development Center on Autism Spectrum Disorders, Waisman Center, University of Wisconsin.

Naturalistic intervention is a collection of practices including environmental arrangement, interaction techniques, and strategies based on applied behavior analysis principles. These practices are designed to encourage specific target behaviors based on learners' interests by building more complex skills that are naturally **r**einforcing and appropriate to the interaction. Naturalistic intervention has demonstrated effectiveness with learners with ASD at the preschool, elementary, and middle/high school levels and is appropriate for learners of any cognitive level. By definition, naturalistic intervention is used in daily routines throughout the day to develop skills in the areas of communication (both prelinguistic and linguistic) and social development. Table 1 at the end of this document provides examples of embedding naturalistic intervention throughout the day.

Step 1. Identifying a Target Behavior

In Step 1, a specific **target behavior**/skill is selected to be the focus of the intervention. This target behavior may focus on prelinguistic or linguistic communication and/or social skills. The target behavior should come directly from the learner's individualized family service plan (IFSP) or individualized education program (IEP).

1. Practitioners, parents, and other team members select a specific target behavior/skill to be the focus of the intervention that:

    a. focuses on prelinguistic or linguistic communication and/or

    b. social skills.

With naturalistic intervention, it is important to identify specific skills that will be targeted (i.e., target behaviors). These skills, or target behaviors, need to be more specific than a general goal.

EXAMPLE: General goal vs. target behavior

General Goal:	Connor will increase his use of language during play.
Target Behavior:	Connor will use the pronouns *he, she,* and *it* correctly.

2. Practitioners, parents, and other team members confirm that target behaviors are reflected in the learner's IEP or IFSP.

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The IEP or IFSP team, which may include special education teachers, general education teachers, speech-language pathologists, occupational therapists, physical therapists, psychologists, parents, and/or caregivers, should meet to determine appropriate goals and target behaviors for the learner. The target behaviors identified for naturalistic intervention should come directly from the IEP or IFSP developed by the learner's interdisciplinary team.

Because naturalistic intervention is often used with very young children, it is important to recognize and understand the value of prelinguistic communication. For example, a target behavior may be pointing to an object to establish **shared attention**, engaging in shared attention, or vocal turn-taking. Although none of these target behaviors demonstrates actual language use, these skills provide the foundation for language development. For video clips demonstrating shared attention and other preliguistic behaviors, see the ASD Video Glossary at http://www.autismspeaks.org/video/glossary.php.

Step 2. Collecting Baseline Data

1. Prior to intervention, practitioners, parents, and other team members determine the learner's current use of the target skill.

2. Practitioners, parents, and other team members take data on the target skill a minimum of three times in more than one environment.

As with all practices, it is important to have a clear understanding of learners' skills before beginning naturalistic intervention. A **frequency log** like the one below may be useful when collecting data. These baseline data will be critical for assessing whether or not the intervention is effective.

Table 2. Example of Baseline Data Collection
Target Behavior: Initiating communication with peers

Date	Location	Tallies of Target Behavior	Notes (e.g., antecedents, prompts, etc.)
4-7	Circle Time	√	Asked Mitch, "What are we supposed to be doing?"
4-8	Lunchroom	√	Sat alone. Said "hey" when Matt bumped into his table.
4-8	Free Choice Time		Did not speak at all – sat alone in corner of classroom
4-9	Math Center	√	Asked Jason, "Where did you get those blocks?"

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With information from a log like this, the teacher/practitioner can identify how frequently learners currently use the target behavior. In the notes column, he/she might indicate **prompts** that were used, environmental cues, or other **antecedents** to the demonstration of the target behavior.

Language sampling can provide useful information about learners who are using words and/or phrases regularly. It is a direct transcription of an interaction between learners and their teacher, practitioner, or team members. A language sample will provide information on the current length and content of **utterances** as well as antecedents to their production. A speech/language pathologist on the learner's team should be able to take and analyze a language sample (see additional resources).

Step 3. Identifying the Contexts for Intervention

Naturalistic intervention should take place throughout the day in the context of daily routines/ schedules. Table 1 provides an example of naturalistic interventions used to increase target behaviors throughout a preschooler's day at school and at home. The art of embedding intervention within the learner's regular routines is critical for successfully implementing naturalistic intervention.

1. Practitioners, parents, and other team members determine the learner's daily schedule.

2. Practitioners, parents, and other team members identify contexts in which to embed naturalistic intervention:

    a. *Learner-directed activities.* In these activities, learners select what they want to do within a specific environment (see Step 5). For example, Betsy has a target behavior of labeling animals. Different animal toys are offered during free-choice time, and Betsy decides that she wants to work on an animal puzzle after math center time. To support Betsy's use of the target behavior, the teacher, practitioner, or team member may encourage Betsy to request each piece that represents a different animal.

    b. *Routine activities.* Routine activities take place on a regular basis. Choice making should be built into these routine activities, thus allowing learners to direct the interactions. For example, Devin has a target behavior of using words to request, "more." Each day during snack, his teacher presents several tasty options (pretzels, apple slices, cheese cubes, and pudding). She keeps these out of reach and gives very small portions to the students upon their request. These small portions provide students, including Devin, with numerous opportunities to request, "more." Having multiple snack options allows Devin to make choices and direct the interaction.

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c. *Planned activities.* Planned activities are set-up in advance (i.e., within a lesson plan) to provide opportunities for individual learners to practice the target behavior. Again, choice-making should be built into the activity. For example, a teacher may plan a science experiment dealing with units of measure. If the target behavior is for Sam to initiate verbal communication, she may have the students find partners, choose objects to measure (allowing the learners to make choices), and then have one student verbally report the findings to his/her partner who is recording the data. The teacher would make sure that Sam is designated as the reporter and provide any necessary prompts to help him verbally report findings to his partner.

Step 4. Providing Training to Team Members

1. Practitioners, parents, and other team members determine who will teach the skill.

Because naturalistic intervention occurs throughout the day, many adults may need to be taught how to elicit the target behavior. These adults may include parents, caregivers, related service providers, paraprofessionals, classroom teachers, or classroom volunteers. Having multiple adults interact with learners encourages generalization. Adults who naturally interact with learners should be prepared to use naturalistic intervention strategies to elicit target skills.

2. Practitioners, parents, and other team members provide adequate training to team members before initiating naturalistic intervention.

Adults who will be interacting with learners must understand:

a. The target skill and
b. The strategies used to elicit that skill.

Depending on the situation, different levels of training may be necessary. For example, in a preschool classroom, the classroom teacher may need to arrange the environment and to model the strategies used to elicit the skill for assistants and volunteers. For older learners in multiple classrooms throughout the day, individual classroom teachers must understand the entire process to successfully embed naturalistic strategies in their classrooms. Regular consultation with a case manager and/or professional development may be required to achieve consistency and success in implementing naturalistic intervention throughout the day when multiple teachers and settings are involved.

Although some naturalistic practices, such as **milieu teaching**, have traditionally been implemented by practitioners, parents, and other team members, research has also

demonstrated the effectiveness of training parents, caregivers, and/or other professionals to implement the teaching. Parents are often taught specific parts of the practice, such as reciprocal interaction techniques, while the learner also participates in more traditional therapy sessions that involve behavioral techniques such as modeling to elicit responses (within an environment adapted for the learner's own interests). Parents also can be taught to implement all aspects of the intervention in home and community settings. Parent involvement may be especially important for very young learners, for whom multiple therapy sessions per week in a clinic or other out-of-home setting may not be appropriate. In these situations, parents are often the most appropriate and most effective teachers. **Please refer to the AIM module on *parent implemented interventions* for more information.**

Step 5. Arranging the Environment to Elicit the Target Behavior

In Step 5, practitioners, parents, and other team members use information from Step 4 and materials/resources within **learning environments** to capture learners' attention and motivate them to produce target behaviors.

1. Practitioners, parents, and other team members choose motivating materials/activities to engage learners and promote the use of targeted skills.

   A key feature of naturalistic intervention is using materials and toys that will motivate the learner to engage in the target behavior and that will promote generalization of skills. Toys that can be particularly useful in facilitating communication and social play include those that:

- Have multiple parts (e.g., Legos™, a shape sorter, or Mr. Potato Head™),
- Are added onto another activity (e.g., adding Little People™ into play with blocks, using puppets to behavior out a reading lesson),
- Require adult assistance (e.g., having lid on bottle of bubbles so tight that learner must request help, holding puzzle pieces until the child requests them), and/or
- Encourage turn-taking (e.g., throwing a ball, placing puzzle pieces, sending toy cars down a ramp).

Social routines, such as finger plays/songs, peek-a-boo, or tickling games between parent and child can also be excellent activities for engaging pre-linguistic learners.

2. Practitioners, parents, and other team members manage and distribute teaching materials in a way that encourages learners to communicate.

   Within interactions and contexts for intervention, materials should be managed by the teacher, practitioner, or team member. That is, the teacher, practitioner, or team member should be "the keeper of the goods" and distribute the materials in

a manner that encourages communication. For example, communication can often be elicited by giving learners only a few of the Legos at once, forgetting to provide a paintbrush with the paint, or putting a doll's hat on her feet as if by accident. Such "mistakes" are likely to elicit a request or comment from the learner.

3. Practitioners, parents, and other team members arrange the intervention context and environment to:

   a. Encourage the use of the target behavior/skill and

   b. Maintain learners' interests.

Some examples follow:

> LaTisha's team has identified her target behavior to be *pointing to request* (a prelinguistic communication skill). Her mother knows that she loves to complete puzzles. She takes LaTisha's puzzles off the table, and puts them on a bookshelf that LaTisha cannot reach. The intention is for LaTisha to point to the puzzles to request them.
>
> Kai's team has identified his target behavior to be *increased shared attention*. He loves play dough. Kai's therapist places two balls of play dough prominently on the table to entice Kai to the activity. He has placed a chair with sides at the table in order to provide Kai with physical cues (chair sides) to keep him seated and engaged in the activity. The intention is for Kai to select the play dough as an activity and to stay with the activity while the therapist tries to engage him in shared attention.
>
> Ruby's team has identified her target behavior to be *increased turn taking*. She enjoys manipulatives. Her teacher replaces the standard manipulatives (e.g., counting bears) with turn-taking games that involve the manipulation of small parts, like *Ants in the Pants*™, *Stacrobats*™, and *Kerplunk*™. The intention is for Ruby to be enticed by the small pieces and then engage in turn-taking while playing the game.

Step 6. Eliciting the Target Behavior

In Step 6, the teacher, practitioner, or team member elicits the target behavior using interaction techniques and, if necessary, behavioral strategies like prompting and modeling.

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Step-by-step directions for each practice will be provided. In practice, it is most common for interaction and behavioral techniques to be used in combination with one another, thereby providing both the foundation of the interaction and the specifics on how the teacher, practitioner, or team member interacts with the learner. In some cases, interaction techniques (Step 6a) will be sufficient to elicit the target behavior, and further prompting (Step 6b) will not be necessary.

Step 6a. Engaging the Learner in an Interaction

In Step 6a, the teacher, practitioner, or team member engages the learner in a language-rich and learner-centered interaction in which the teacher, practitioner, or team member is highly attuned and responsive to the **communicative attempts** of the learner.

1. Practitioners, parents, and other team members engage the learner in a language-rich, learner-directed, and reciprocal interaction that involves the following techniques:

    a. *Following the learner's lead.* Following the learner's lead involves allowing the learner to direct the interaction and the activity. Rather than a teacher, practitioner, or team member having a set lesson plan (e.g., to play in the toy house), she waits and sees what the learner wants to do. If the learner goes to the toy house, she engages him there. But if the learner goes to the block area, she engages him with the blocks. Remember that the environment has already been arranged to elicit specific targets (Step 5), so either activity should lead to the desired target.For some learners, the teacher, practitioner, or team member must be especially observant and patient in order to follow the learner's lead. If a learner has a more passive temperament, it may be difficult to identify his interests, and the teacher, practitioner, or team member may be tempted to become more directive ("Here's a puzzle! Let's do it!"). However, teacher, practitioner, or team members are encouraged to be patient, watch for nonverbal indications of interest (e.g., eye gaze, reaching), and match the learner's activity level (e.g., if the learner is pouring sand over and over, join her in this activity rather than encouraging her to make a sandcastle).

    b. *Being at the learner's level.* With very young learners, the teacher, practitioner, or team member may have to lie or sit on the floor while the child is on a chair or couch to share face-to-face interactions. This kind of positioning facilitates shared attention, which is crucial to the interactions.

        For learners who avoid eye contact, it may be necessary for the teacher, practitioner, or team member to maneuver her own body to interrupt the

learner's eye gaze. That is, if the learner is looking toward the clock while playing with a koosh ball, the teacher, practitioner, or team member may need to put her own face in the line of the clock to encourage eye contact and establish shared attention. However, if a learner finds eye contact unpleasant and is actively avoiding eye contact, it may be best to engage the learner in an interaction without insisting upon eye contact.

c. *Responding to the learner's verbal and nonverbal initiations.* When joining learners in play, teacher, practitioner, or team members must be vigilant in watching for learners' communicative cues. A learner who wants a snack that is out of reach may glance toward it and vocalize. The teacher, practitioner, or team member can recognize this as a communicative attempt and respond. Being aware of even the most subtle communicative attempts and responding to these attempts teaches the learner that communication is powerful.

   Both verbal and motor imitation can engage learners. If a learner holds a puzzle piece up to her face and says, "ga," the teacher, practitioner, or team member can hold a puzzle piece up to his own mouth and say, "ga." This imitation can encourage turn-taking and facilitate the back-and-forth dance of social communication.

   Interrupting a routine with a pause or doing something that the learner finds funny or interesting can engage learners. For example, make a funny face as you reveal yourself after a few rounds of peek-a-boo or pause at the end of a line of a song ("The itsy bitsy spider went up the water…..").

d. *Providing meaningful verbal feedback.* Responding to a learner's communicative attempts with words gives learners a model while they are sharing attention with the teacher, practitioner, or team member. A minimally verbal learner may be trying to place a puzzle piece and say, "Ta!" The teacher, practitioner, or team member, available and engaged, can respond, "Stuck! That piece is stuck! Let's turn it."

e. *Expanding the learner's utterances*. When a learner is verbal, especially at the one- to three-word phrase level, the teacher, practitioner, or team member can build on what the learner says, thereby demonstrating more linguistically sophisticated options, as in this script:

   Learner (with toy cars): "Car."
   Teacher (pushes car): "Car. Go, car!"
   Learner: "Go, car!"
   Teacher: "Go, car! Fast!"

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To summarize Step 6a, these strategies are used to maintain the learner's interests and provide language models that are at a slightly higher level than the learner's own language use. For some learners, these techniques will facilitate their use of the target behavior.

For most children with ASD, it will be necessary to provide supports for learners to demonstrate the target behaviors. Strategies Based on Applied Behavior Analysis (ABA) to elicit targeted behaviors are outlined in Step 6b, below.

Step 6b. Using Strategies Based on Applied Behavior Analysis (ABA) to Elicit Target Behaviors

In Step 6b, the teacher, practitioner, or team member uses **modeling**, **mand-models**, **time delay**, and/or **incidental teaching** techniques to elicit the target behavior within intervention contexts and arranged environments that were identified in Steps 4 and 5.

Sometimes, engaging the learner in a language-rich and responsive interaction (Step 6a) within an arranged environment (Step 5) will result in the learner demonstrating the target behavior. However, if the learner does not demonstrate the target behavior, ABA techniques can be used to elicit the target behaviors (still within the context of an arranged environment and with a teacher, practitioner, or team member who is using responsive interaction techniques). These behavioral techniques include modeling, mand-models, time delay, and incidental teaching. The narrative and tables below detail these practices (adapted from Hancock & Kaiser, 2006).

1. Practitioners, parents, and other team members select one of the following interventions to elicit the target behavior:

    a. modeling,

    b. mand-modeling,

    c. modified time delay, or

    d. incidental teaching.

Modeling

Practitioners, parents, and other team members implement *modeling* by:

a. Establishing shared attention,

b. Presenting a verbal model,

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c. Expanding the response and providing the requested material (if the learner responds to the model correctly),

d. Providing another model (if the learner does not respond or is inaccurate),

e. Expanding the response and providing the requested material (if the learner responds to the model correctly), and

f. Stating the correct response and providing the material (if the learner does not respond or does not repeat the model correctly).

The following table illustrates how modeling can be used to teach a learner with ASD to *use two-word utterances* to make a request. Notice how the interaction is brief, with the learner being given two or three models, and that it ends positively, with the learner obtaining the desired material.

Table 3. Modeling Technique Example

Steps	Example
a. Establish shared attention	*Caleb and his childcare provider are playing with play dough.*
b. Provide a verbal model	*The childcare provider prompts Caleb, "Say, 'More play dough'."*
c. If the learner responds to the model correctly, expand the response and provide the requested material.	*If Caleb says, "More play dough," the childcare provider gives him more play dough and expands his utterance, "More green play dough, please!"*
d. If the learner does not respond or does not repeat the model exactly, provide another model.	*If Caleb says, "More," the childcare provider prompts him by saying, "Say, 'More play dough'." She stresses 'play dough'.*
e. If the learner responds to the model correctly, expand the response and provide the requested material.	*If Caleb says, "More play dough," the childcare provider gives him more and expands his utterance by saying, "More green play dough, please!"*
f. If the learner does not respond or does not repeat the model correctly, provide material and state the correct response.	*If Caleb does not respond or only responds partially (e.g., "More"), the childcare provider says, "More play dough" and gives Caleb the play dough.*

(Adapted from Hancock & Kaiser, 2006)

Mand-Modeling

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Mand-model procedures incorporate a question, choice, or direction (mand) into the activity prior to initiating a modeling procedure.

Practitioners, parents, and other team members implement *mand-modeling* by:

a. Establishing shared attention;

b. Presenting a verbal direction (mand) or question;

c. Expanding the response and providing the requested material (if the learner responds correctly);

d. Giving another direction or model (depending on the learner's needs for support), if the learner does not respond or does not respond with a target;

e. Expanding on the response and providing the requested material (if the learner gives the target response); and

f. Saying the target response and providing the material (if learner still does not give the target response or repeat the model exactly).

Table 4 illustrates how mand-modeling can be used to teach a learner with ASD how to *use two-word utterances*.

Table 4. Mand-modeling Procedure Example

Steps	Example
a. Establish shared attention	*Sasha and her mother are having snack at the table where enticing snacks are located.*
b. Provide a verbal direction (mand) or question	*Her mother says, "Tell me what you want, Sasha" or gives a choice question, "Do you want apples or crackers?"*
c. If the learner responds correctly, expand the response and provide the requested material.	*When Sasha says the target response (i.e., "Want crackers"), her mother provides the crackers and expands her utterance by saying, "Want fish crackers, please!"*
d. If the learner does not respond or does not respond with a target, provide another direction or model (depending on the learner's needs for support).	*When Sasha points to the crackers instead of verbalizing, her mother prompts her by saying, "Say, 'Want crackers'."*
e. If the learner gives the target response, expand the response and provide the requested material.	*When Sasha repeats, "Want crackers," her mother provides the crackers and expands, "Want fish crackers, please!"*
f. If the learner still does not give the	*When Sasha says, "Crackers," which is not*

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target response or repeat the model exactly, say the target response and provide the material.	*complete and at the target level, her mother says, "Want crackers," and provides crackers.*

(Adapted from Hancock & Kaiser, 2006)

Modified Time Delay

The use of modified time delay, or waiting, before providing a verbal prompt allows learners to initiate the verbalization and encourages them to become aware of nonverbal cues.

Practitioners, parents, and other team members implement modified time delay by:

a. Establishing shared attention;

b. Waiting 3-5 seconds for the learner to make a request/comment;

c. Expanding on the request/comment and providing the requested material/activity (if the learner initiates at the target level);

d. Providing a mand or model, depending on the learner's need for support (if the learner does not initiate at the target level;

e. Expanding on the response and providing the material (if the learner responds correctly);

f. Saying the target response and providing the material (if the learner still does not give the target response or repeat the model exactly).

The following table illustrates how modified time delay can be used to teach a learner with ASD how to *use two-word utterances* to request.

Table 5. Modified Time Delay Technique Example

Steps	Example
a. Establish shared attention	*John's teacher is pushing John on the swing, facing him.*
b. Wait for the learner to make a request	*The teacher lets the swing come to a stop. She waits, with her hands up as if to push, and has an expectant look on her face.*
c. If the learner initiates a request/ comment at the target level, expand the response and provide the request.	*If John says, "Push me!" the teacher says, "Push me really high!" and pushes the swing.*
d. If the learner does not initiate at the	*If John grunts instead of verbalizing, the teacher*

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target level, provide a mand or model depending on the learner's need for support.	*can give a mand, "Tell me what to do, John," or give a model, "Say 'Push me'."*
e. If the learner responds correctly, expand the response and provide the material.	*If John says, "Push me!" the teacher says, "Push me really high!" and pushes the swing.*
f. If the learner still does not give the target response or repeat the model exactly, say the target response and provide the material.	*If John does not respond or says, "Push," the teacher says, "Push me!" and pushes him on the swing.*

(Adapted from Hancock & Kaiser, 2006)

Incidental Teaching

Incidental teaching can be used to help learners elaborate on requests they have made. The teacher, practitioner, or team member encourages the learner to initiate interactions and manipulates the environment to elicit a request, and then uses a question to encourage an elaboration from the learner.

Practitioners, parents, and other team members implement incidental teaching by:

a. Setting up the environment to encourage learners to request assistance or materials,

b. Waiting for learners to initiate the request,

c. Responding with a request for elaboration (if the learner does not initiate with the target response),

d. Continuing to prompt for elaboration until the learner responds appropriately, and

e. Using model, mand-model, or modified time delay procedures, depending on the needs of the learner (if the learner does not initiate a request).

The following table illustrates how incidental teaching can be used to teach a learner with ASD how to *use modifiers when making requests*.

Table 6. Incidental Teaching Example

Steps	Example
a. Set up the environment to encourage learners to request assistance or materials	*Ming's teacher knows she likes to play a fishing game. She places the game on the table, but does not put out the fishing pole.*

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b. Wait for learners to initiate the request	*Ming looks at her teacher and says, "Pole."*
c. If the learner initiates with the target response, respond with a request for elaboration.	*Her teacher asks, "What kind of pole?" If Ming replies, "Fishing pole," her teacher can say, "That's right!" and provide her with the fishing pole. If Ming still replies, "Pole," then her teacher may prompt again for the elaboration.*
d. Continue to prompt (varying the level of prompting as needed) for the elaboration until the learner responds appropriately.	*If Ming still replies, "Pole," then her teacher may prompt again for the elaboration: "Tell me what kind of pole, Ming."*
e. If the learner does not initiate a request with the target behavior, use model, mand-model, or modified time delay procedures, depending on the needs of the learner.	*If Ming points at the pole or says, "Pole," her teacher can respond with the procedure that is most appropriate for Ming. In this example, her teacher provides a model, "Say fishing pole."*

(Adapted from Hancock & Kaiser, 2006)

The strategies described in the above section also can be used with prelinguistic learners, with some modifications. Instead of expanding on a verbal response, the communication partner would map language onto the target behavior. This can be used to pair language with any communicative attempt. If a learner points to a picture on the mantel (request for information), her mother can say, "That's Grandma!" If a child pushes away her plate of noodles (protest), her father can say, "Oh! I don't want spaghetti," and remove her plate. One way to think of pairing an adult's words with a child's intent is to say it "as your child would if he could" (Sussman, 1999, p. 208).

Another example follows:

> Jenna is in her playroom. Her mother is trying to get her to request by pointing. She has placed some of Jenna's favorite toys in clear containers and put them on a shelf. She tells Jenna, "Show me what you want," (mand-model), and Jenna points to her pop beads. Jenna's mother says, "You want pop beads," and hands her the beads.

Table 1 provides a thorough example on how all these strategies might be used throughout a preschooler's day to elicit the target behavior.

Step 7. Using Data Collection to Monitor Learner Progress and Determine Next Steps

1. Practitioners, parents, and other team members collect data to evaluate the success of the intervention and to guide future decision-making.

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Data should be gathered throughout naturalistic intervention, such as taking language samples and/or data on strategies that were used to elicit the target behavior. Because naturalistic intervention involves having the conversational partner engaged with the learner, it can be helpful to either a) video record the session and collect data off the video at a later point in time or b) have an observer take the data. However, real-time data collection may be possible and the teacher, practitioner, or team member should identify data collection measures and procedures that are feasible and efficient.

The example below shows how data could be gathered on the intervention, including routines in which the intervention was embedded, environmental modifications, and strategies that were used to elicit the target behavior.

Table 7. Example of Outcome Data Collection

Learner: Jason
Person collecting data: Ms. C
Target Behavior (TB): Using words to ask for more

Date	Activity/Routine	Environmental Modifications	Strategies Used (underline or circle)	TB used Yes/ No	Notes
4-9	Snack	Snacks out of reach. Choices = chips, goldfish, apple, juice box, raisins	M **Ma** TD IT O	N	Off day? Had to provide model for him to request more
			M Ma TD IT O	Y	
			M Ma TD IT O	Y	
			M Ma **TD** IT O	N	
			M Ma TD IT O	Y	
4-10	Snack	Same	M Ma **TD** IT O	N	Only ate chips today
			M **Ma** TD IT O	Y	
			M **Ma** TD IT O	Y	
			M Ma **TD** IT O	N	
			M **Ma** TD IT O	Y	
4-11	Free Choice – Pirate Legos	I held the bin of Legos and only gave three blocks at a time when asked	**M** Ma TD IT O	Y	Keesha playing with us at same time – each building their own thing
			M Ma **TD** IT O	N	
			M **Ma** TD IT O	Y	
			M Ma **TD** IT O	Y	
			M Ma **TD** IT O	Y	

M = **M**odel, Ma = **Ma**nd-Model, TD = Modified **T**ime **D**elay, IT = **I**ncidental **T**eaching, O = **O**ther

Examples of simple data collection procedures include:

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- Wrapping paper around one's wrist on which data can be tallied, allowing adults to move around the teaching space without having to carry data collection sheets.

- Placing data collection sheets around the teaching space so that they are available regardless of where the learner goes.

- Gathering data from multiple students on address labels that can later be peeled off and put on individual students' data sheets. Practitioners, parents, and other team members will avoid having to shuffle through multiple data sheets as they interact with a classroom of students.

References

Hancock, T. B., & Kaiser, A. P. (2006). Enhanced milieu teaching. In McCauley R.J. & Fey, M.E. (Ed.), *Treatment of language disorders in children* (pp. 203-229). Baltimore: Paul H. Brooks Publishing.

Sussman, F. (1999). *More than words: Helping parents promote communication and social skills in children with autism spectrum disorder*. Toronto, ON: The Hanen Centre.

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Table 1. Embedding Natural Intervention within Daily Activities

Daily Activity/ Routine	**Goals**	
	Goal 1. Using 2-3 word utterances to request	**Goal 2. Labeling body parts**
Coat Hook Routine	*Activity:* Adults can forget to bring necessary items (shoes to replace his boots) to assist student. *Intervention:* Use modified time delay and mands to encourage request. • Wait (modified time delay) to see if Brian requests his shoes independently. • If not, provide a mand: "Tell me what you need, Brian," in order to prompt for the response: "my shoes."	*Activity:* Removing coat, etc in the morning. *Intervention:* Use mands (commands/prompts) and time delay to elicit labels for body parts associated with clothing items. • Adult asks, "Are these your hands or feet?" as Brian removes his mittens. Brian responds, "Hands." • Adult comments, "I see your ____," as Brian removes his boots. Brian responds, "Feet."
Circle Time	*Activity:* Include "requests" into daily classroom assignments during circle time. *Intervention:* Provide models to encourage Brian to use a two-word utterance to make these requests. • Encourage the daily "weather person" to ask a friend to walk with them to the window by requesting, "Help me, please." • Letting the "friend counter" request a specific pointer for counting, "Red pointer, please".	*Activity:* Include songs involving body parts in the class's repertoire. *Intervention:* Use modified time delay to encourage Brian to fill in the missing word during your pause • During the Hokey Pokey, use time delay and encourage Brian to fill in the missing word during your pause. Adult sings, "You put your ____" (and places arm out) and calls on Brian. Brian responds, "Arm in!" *Activity:* Dress a toy bear as part of the daily weather report. *Intervention:* Probe with choice questions about where clothing goes on the bear. • After the class decides to do so, adult places sandals on the bear. Adult asks Brian, "Where are the bear's sandals…on his feet or head?" Brian responds, "Feet!" • If Brian does not respond or gives an incorrect response, adult provides a model: "On his feet! Say *feet*."

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Daily Activity/ Routine	**Goals**	
	Goal 1. Using 2-3 word utterances to request	**Goal 2. Labeling body parts**
Morning Snack	*Activity:* Offered choices at snack time are kept out of reach but in sight. *Intervention:* Adult uses mand to elicit request. Models two-word utterances when response is a single word utterance. Modified time delay is used to elicit request for more. • Adult says, "Tell me what you want." If Brian replies with a single word ("cookie"), adult models two-word utterance: Say chocolate cookie." • Adult gives only a small serving of requested snack (e.g., two goldfish crackers). Wait for Brian to request more. Model the two-word phrase if he uses a single word to request: "Say *more please*."	*Activity:* The group talks about body parts that are used for eating. *Intervention:* Adult uses modified time delay to encourage Brian to fill in to appropriate body part. • Adult: "Brian, for chewing I use my ____." Brian responds, "Teeth!" • If Brian does not respond with the target, use a question paired with the visual example of chewing: "Brian, what am I chewing with?"
Free Choice	*Activity:* Favorite toys are placed out of reach, but in sight. *Intervention:* Adult waits for Brian to make a request (time delay). If Brian uses a single word or gesture, adult provides a model. • Brian says, "Trains!" Adult responds, "You want the trains! Say *want trains*!" *Activity:* Certain activities require a partner. *Intervention:* Adult models a request to play for Brian. • Adult walks with Brian to a peer. Adult says, "Brian wants to play with you. Brian, say '*Play with me?*" Brian responds, "Play with me?"	*Activity:* Dolls are available in the "Doctor's Office" pretend play area. *Intervention:* Adult uses mands in order to prompt Brian to label body parts as he fixes the doll's injuries. • Brian is placing a band-aid on the doll's belly. Adult asks, "Brian, tell me where you're putting the band aid." Brian looks at doll and responds, "Belly."

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Daily Activity/ Routine	Goals	
	Goal 1. Using 2-3 word utterances to request	**Goal 2. Labeling body parts**
Lunch	*Activity:* Milk choices are placed out of reach. *Intervention:* Adult asks Brian what kind of milk he wants and uses incidental teaching to expand the request. • Brian says, "Milk please." Adult responds, "What kind of milk?" Brian responds, "Chocolate milk please!"	*Activity:* Cleaning up after lunch *Intervention:* Adults uses a mands to have Brian label body parts while he cleans up. • As Brian wipes his mouth and hands, adult says, "Brian, tell me what you're wiping." Brian responds with the appropriate label.
Outside Play	*Activity*: Sand toys are withheld until verbally requested. *Intervention:* Adult holds sand toys out with an expectant look on her face and waits for Brian to request. • Brian says, "Please." Adult models the two word phrase, "Say *digger please*." Brian responds appropriately.	*Activity:* Pouring sand on Brian's arms, hands, and legs in the sandbox: a familiar and enjoyed activity. *Intervention:* Adult uses mands (command/prompt) to have Brian label body parts. • Brian sticks his hand out, toward the pouring sand. Adult says, "Tell me where to pour it, Brian." Brian responds, "My hand!" They do the same for legs and arms.
At Home: Driveway Play	*Activity:* Play with bikes, scooters, sports equipment, all of which are hung out of reach *Intervention:* Adult uses mand-model to elicit the request. • Adult says, "Tell me what you want, Brian." Adult pauses, allowing Brian to respond, "My bike!" • If Brian responds with a single word or a gesture, adult provides a model, "Say *my bike please*!"	*Activity:* Tracing Brian's body on the driveway with chalk *Intervention:* Adult asks choice questions to elicit the labels. • As the adult and Brian color in the outline, the adult can ask, "What are you drawing now, Brian, your eyes or your nose?" Brian responds, "My eyes!"
At Home: Bath Time	*Activity:* Playing with foam soap. Adult squeezes a small amount onto Brian's hands when requested. *Intervention:* Adult uses modified time delay to elicit the request. • Adult waits expectantly while Brian plays with the foam soap. When it is gone, adult holds up the container and waits for him to request, "More please!"	*Activity:* Washing up during the bath *Intervention:* As Brian washes different body parts, adult asks for the label and waits for Brian's response. • Brian uses the washcloth on his leg. Adult asks, "What are you washing?" Brian looks at himself and responds, "Leg!"

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Implementation Checklist for Naturalistic Intervention

Franzone, E. (2009). *Implementation checklist for naturalistic intervention*. Madison, WI: The National Professional Development Center on Autism Spectrum Disorders, Waisman Center, The University of Wisconsin.

Instructions: The Implementation Checklist includes each step in the process of implementing naturalistic intervention. Please complete all of the requested information including the site and state, individual being observed/interviewed, and the learner's initials. To assure that a practice is being implemented as intended, an observation is *always* preferable. This may not always be possible. Thus, items may be scored based on observations with the implementer, discussions and/or record review as appropriate. Within the table, record a 2 (implemented), 1 (partially implemented), 0 (did not implement), or NA (not applicable) next to each step observed to indicate to what extent the step was implemented/addressed during your observation. Use the last page of the checklist to record the target skill, your comments, whether others were present, and plans for next steps for each observation.

Site: _____ State: _____

Individual Observed: _____ Learner's Initials: _____

Skills below can be implemented by a practitioner, parent, or other team member

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Planning (Steps 1 – 5)									
Step 1. Identifying a Target Behavior		**Score****							
1. Select a specific target behavior to be the focus of intervention that: a. focuses on prelinguistic or linguistic communication and/or b. social skills.									
2. Confirm that the target behaviors are in the learner's IEP or IFSP.									
Step 2. Collecting Baseline Data									
1. Prior to intervention, determine the learner's current use of the target skill.									
2. Take data on the target skills a minimum of three times in more than one environment.									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

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	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 3. Identifying the Contexts for Intervention		**Score****							
1. Determine the learner's daily schedule.									
2. Identify the contexts in which naturalistic intervention will be embedded, including a. learner-directed activities, b. routine activities, and/or c. planned activities.									
Step 4. Providing Training to Team Members									
1. Determine who will teach the skill.									
2. Provide adequate training to team members before initiating naturalistic intervention.									
Step 5. Arranging the Environment to Elicit the Target Behavior									
1. Choose motivating materials/activities to engage learners and promote the use of target skills.									
2. Manage and distribute teaching materials in a way that encourages learners to communicate.									
3. Arrange the intervention context and environment to:									
a. encourage the use of the target act/skill and									
b. maintain learners' interests.									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

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	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Intervention (Step 6)									
Step 6. Eliciting the Target Act									
Step 6A. Engaging the Learner in an Interaction	**Score****								
1. Engage the learner in language-rich, learner-directed, and reciprocal interactions that involve the following techniques:									
a. following the learner's lead,									
b. being at the learner's level,									
c. responding to the learner's verbal and nonverbal initiations,									
d. providing meaningful verbal feedback, and									
e. expanding the learner's utterances.									
Step 6B. Using Strategies Based on Applied Behavior Analysis (ABA) to Elicit Target Behaviors									
1. Select a behavioral intervention (modeling, mand-modeling, modified time delay, or incidental teaching) to elicit the target act. *(Please refer to steps below for these individual practices.)*									
Modeling									
2. Implement *modeling* by*:* a. establishing shared attention, b. presenting a verbal model, c. expanding the response and providing the requested material (if the learner responds to the model correctly), d. providing another model (if the learner does not respond or does not repeat the model exactly), e. expanding the response and providing requested material (if the learner responds to the model correctly), and/or f. providing the material and stating the corrected response (if the learner does not respond or does not repeat the model exactly).									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

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	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 6B. Using Strategies Based on ABA to Elicit Target Behaviors (cont.)		**Score****							
Mand-Modeling									
3. Implement *mand-modeling* by: a. establishing shared attention, b. providing a verbal direction (mand) or question, c. expanding the response and providing the requested material (if the learner responds correctly), d. providing another direction or a model (depending on learner's needs for support) if the learner does not respond or does not respond with the target, e. expanding the response and providing the requested material (if the learner gives the target response), and/or f. providing the material and stating the target response (if the learner still does not give the target response or repeat the model exactly).									
Modified Time Delay									
4. Implement *modified time delay* by: a. establishing shared attention; c. waiting 3-5 seconds for the learner to make request/comment; d. expanding on the request/comment and providing the requested material/activity (if the learners initiates at the target level); d. providing a mand or model, depending on the learner's needs for support (if the learner does not initiate at the target level); e. expanding the request and providing the material (if the learner responds correctly); and/or f. providing the material and stating the target response (if the learner still does not give the target response or repeat the model exactly).									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

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	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 6B. Using Strategies Based on ABA to Elicit Target Behaviors (cont.)		**Score****							
Incidental Teaching									
1. Implement *incidental teaching* by: a. setting up the environment to encourage learner to request assistance or materials, b. waiting for learner to initiate the request, c. responding with a request for elaboration (if learner does not initiate with the target response), d. continuing to prompt for the elaboration until learner responds appropriately, and/or e. using model, mand-model, or modified time delay procedures, depending on the needs of learner (if learner does not initiate a request with the target act).									
Progress Monitoring (Step 7)									
Step 7: Using Data Collection to Monitor Learner Progress and Determine Next Steps									
1. Collect data to evaluate the success of the intervention and guide future decision making.									

***Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable*

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Date	Observer Initials	Targeted Skill/Behavior, Comments, and Plans for Next Steps
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**

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Date	Observer Initials	Targeted Skill/Behavior, Comments, and Plans for Next Steps
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**
Date	**Observer Initials**	**Targeted Skill/Behavior, Comments, and Plans for Next Steps**

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Naturalistic Baseline Data Sheet

Learner_____ Date_____

Target Act (TA)_____ Person Collecting Data_____

Time Observation Started_____ Time Observation Ended_____

Date	Location	Tallies of Target Behavior	Notes (e.g., antecedents, prompts, etc.)

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Naturalistic Intervention Data Sheet

Learner_____ Date_____

Target Behavior (TB)_____ Person Collecting Data _____

Time Observation Started_____ Time Observation Ended_____

Activity Routine/ Context	Environmental Modifications	Strategies Used (underline or circle)	TB Observed? Yes/No	Notes
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		
		M Ma TD IT O		

M = **M**odel, Ma = **Ma**nd-Model, TD = Modified **T**ime **D**elay, IT = **I**ncidental **T**eaching, O = **O**ther