TruePotential PLLC

Home-Based Therapy for Individuals with Autism Spectrum Disorder

Basic Training Manual

The Intervention Plan

The session structure for the child with ASD is designed so it can be easily replicated by parents, educators or therapists. It can be administered in short periods (20-30 minutes) or longer sessions (1-3 hours) in case a service provider is present to dedicate all of his or her attention to the child. Regardless, the total amount of hours recommended per week (which can vary between 10 and 40 hours) should be completed in order to achieve the number of repetitions per task to maintain retention and acquisition of novel concepts and skills.

The purposes of the therapeutic session for the child with ASD can be divided into:

- Build and maintain a positive association between the child and his or her context, including all of those involved, and the activities themselves.
- Divide teaching into short periods (3-7 instructions per sitting) in order to adapt to the child's attention and focus levels, gradually increasing to adaptive levels that can be generalized to other individual and group teaching settings, such as school.
- Facilitate communication between the child and family/providers.
- Make clear to all those participating the mechanisms and purposes behind therapeutic activities, so families can become their own therapists, as well as the architects of their own therapeutic programs.

Because intervention in one realm (ex. behavioral) interacts with others (ex. communication), all sessions include components from and are based on the following therapeutic disciplines:

- Play-based therapy
- Discrete-trial training (DTT)
- Applied Behavior Analysis (ABA)
- Speech and language therapy
- Sensory integration therapy

The family is encouraged to focus on enjoying the interactions with the child, the sessions themselves, and create an atmosphere where the child feels comfortable and willing to participate, even if at times attention, focus or even compliance may be a work in progress. The family is also encouraged to ask as many questions come to mind, as every developmental area can fall within a category or therapeutic discipline, and each concern can be targeted through the implementation of programs or protocols.

Programs and Protocols

Programs
Structured activities with clearly defined components, such as what is said by the adult, what is expected from the child, the materials used, short and long-term targets. It usually takes place in the chair by or on the table, even though most programs are eventually generalized so the skill can be used in novel or naturalistic contexts. Programs can be fall within the following categories:

- Daily living skills
- Social behavior
- Communication and verbal behavior
- Receptive and expressive language
- Academic or pre-academic development

Protocols
Prescribed procedures for reactions to specific situations that may arise. They are used in and outside of the therapy session, and may include situations that need specific, consistent reaction procedures such as:

- Communication interactions
- Behavior episodes
- Play-based routines
- Routines of daily living

Relationship Building - Interactive Play

Circles of Interaction
Interactive play periods are composed of circles of interaction. During this time, the adult continuously presents actions, movements, sounds or other types of stimulation in order to measure the child's response. Trust is slowly built between the child and adult when the following happen consistently:

- The adult repeats the actions the child likes
- The adult ceases the actions the child refuses

This is accomplished through circles of interaction. Understanding their components is vital for reading interaction between the child and adults, and making decisions on whether repeating or ceasing actions:

Adult presents action > Child reacts > Adult repeats or stops

Every time the child signaled desire for repetition, followed by repetition by the adult, is called a circle. A minimum of three circles is required before calling the child to the chair, or to any structured activity. Following this guideline ensures a healthy balance between adult-directed and child-directed interactions. This is vital in maintaining a positive atmosphere where a positive relationship is built between the child and his or her therapeutic context.

Building Reinforcement

Building a solid reinforcement selection and using it wisely is critical to any therapeutic session. Reinforcement can occur in any (but not limited to) of the following:

a) proprioceptive (pressure and resistance)
b) vestibular (motion-based)
c) social (verbal praise)

The two key requirements to building reinforcement are the following:

1) Select a minimum of 7 reinforcers.
2) Maintain the selected reinforcers' value by doing the following:

   a) Rotating them with with other reinforcers to maintain novelty
   b) Not allowing the child to receive such reinforcer for any other purposes than for completing the target behavior (this may involve some of the parents'

Guidelines for reinforcement use

1) Deliver reinforcement immediately after or simultaneously with the desired
2) If it is an edible reinforcement, make sure the quantities are small and the child has a chance to consume before next SD.
3) Rotate reinforcers as much as possible.
4) For children with low attention spans, make sure the time spent consuming or enjoying the reinforcer does not exceed 10-15 seconds.
5) Remember, if the child is not reaching or asking for it, it's not a reinforcer!

Remember, reinforcers can be associated with other things, and those things in turn can become reinforcing. For example, for a child that does not particularly enjoy verbal praise (which is more common than we think), you may want to deliver along with a secondary tangible reinforcer, to create a positive association. With enough practice, this may lead to the simply being reinforced by verbal praise.

Attention, Focus and Context

Even with a standardized treatment and assessment structure, we understand we only control half of the clinical interaction. The other half belongs to the child, and it is mostly affected, among other things, by attention, focus and the context. For the purposes of clinical practice, we will define them as:

1) Attention - The child's ability to attend to relevant stimuli without additional cues.
2) Focus - Usually measured in number of seconds or minutes a child can remain engaged in a single task without any redirection of prompt by the clinician.
3) Context - Place of service, people and objects in the room.

* Avoid verbal "attention getters" such as "look" and "pay attention." as these may increase prompt dependence.

* Provide verbal praise or reinforcement in higher intensity/amount when the child attends to important stimuli on his/her own.

* Do not raise your voice, tone or volume as a means to obtain the child's attention.

* If you don't have the child's attention and you are about to start a drill, simply begin by delivering the SD and either prompting immediately after or delivering a consequence such as "almost" after 3 seconds of unresponsiveness.

* Gradually reinforce longer periods of focus by keeping track an average of the child's attention span during each session.

* Even during difficult days, try to only reinforce activities with the most appropriate

* Allow children to become distracted for periods of 1-3 seconds during any structured tasks, if the child does not redirect to task on his/her own, you may prompt. Reinforce independent redirection of focus to the task at hand, as this is also a vital skill for learning and language development.

* Set up your room or area before the session if possible, to remove unnecessary distractions such as certain toys or objects (watch out, sometimes electronic devices can be either extremely reinforcing or extremely distracting, or both).

* Parents should participate as much as possible. However, if another adult is too distracting, you may ask the adult to wait outside the room and gradually increase the time they spend in the room across several weeks or even a single session.

Structured Teaching - Discrete Trial

A drill followed by interactive play should take between 4-5 minutes. As a general rule, there should be at least as much play as there was work after each drill.

This means that a 53-minute session could consist of repeating the described pattern (work-play) about 10-12 times.

Even though discrete trial procedure is usually standard and follow the same guidelines, some children are recommended “loose discrete trial” which is similar in structure but different in content (e.g. saying “please come sit down” or a different phrase every time instead of saying “come here” consistently when calling the child to the chair). Please ask your supervisor if you need help in making this determination.

The following guidelines are designed to assist in running a typical therapy session. Individual recommendations for each child may be specified by the assigned behavioral consultant or speech-language pathologist. Such recommendations would override guidelines in this packet in the event of differences or discrepancies.

The Therapy Session

The session structure for the child with ASD is designed so it can be easily replicated by parents, educators or therapists. It can be administered in short periods (20-30 minutes) or longer sessions (1-3 hours). The length usually depends on how much time a parent or service provider is dedicating to a therapy session at once. Regardless of the time spent working on a therapy session, the general session structure is the following:

1) Interactive Play (5-10 minutes)
2) Discrete trial teaching, interspersed with interactive play
3) Data collection and other documentation (last 5-10 minutes)

A drill followed by interactive play should take between 6-7 minutes total. As a general rule, there should be at least as much play as there was work after each drill. There can be more play than work, but excessive work periods in contrast to length of play periods is not recommended.

A one or three hour session would consist of repeating the described pattern one or three times, respectively.

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The Discrete Trial

EO > SD > (P) > R > C

The Discrete Trial is a 3-part teaching unit is a special behavioral sequence used to maximize learning in developmentally disabled persons.

Why use Discrete Trials?
Makes very clear what you are trying to teach and lets child know when he is right or wrong.
Helps teacher maintain consistency.
Makes assessment of progress (and data collection) easier.

The Five Components of a Discrete Trial

EO = Establishing Operation

The motivation or need for reinforcement, manipulated by periods of deprivation and satiation of reinforcement.

- Must occur before the SD is given.
- Varies from moment to moment.
- It is determined by the child

S^D= Discriminative Stimulus (basic instruction corresponding to the target program)

The instruction or question. It signals that reinforcement is available if the child responds correctly.

Make the SD clear, simple, and loud.
Remove excess "noise" by making SD concise, speaking only the most important words.
Say the whole SD without interruption.
Use the exact same wording and use consistently.
Use consistent format of presenting materials.
Do not repeat the SD ("Do this, Do this, Do this!") without consequating the child's response (or lack thereof).
SD should initially be authoritative and louder than your typical speech, and then faded to more natural language.

R= Response

The child's action in response to an SD.

Use consistent criteria to determine what is considered correct.
Be certain extraneous behavior is absent, like self- stimulatory behavior or multiple responses.
Limit the time between the SD and the response to about 3-5 seconds.

C= Consequence (Reinforcement or standard consequence e.g. “good job” for good responses and “almost” for inaccurate responses)

The consequence following the child's response that changes the likelihood with which the behavior will reoccur. Rewards will increase the behavior, and no reward or a punishment will decrease the behavior.

Use a reward for a correct response, and an informational "almost" for an incorrect response.
Deliver reinforcers immediately following a response.
Typical rewards are praise, affection, attention, tickling, acting silly, physical movement, preferred activities, etc.
Make rewards contingent upon correct response
Larger amounts of reinforcement produce stronger effects, but:
Avoid satiation by using smaller amounts and a variety of rewards.
Differentiate your SR'$_5$: don't say "almost" in the same tone of voice as "good"; don't smile when you say "almost".
Vary your reinforcers: tickle, shout, hug, make it "circus time"--don't monotonously repeat "good" with the same inflection.

P= Prompt

The stimulus that helps the child achieve the correct response. It must be faded over time.

The prompt should occur at the same time as the SD, or as soon as possible after it (within 3 seconds).
In order to keep the drill successful, prompt the child after, at the most, two incorrect responses. If the skill is new, prompt every trial.
Types of prompts include Hand over Hand, Physical guidance, physically modeling the response, positioning the correct item closer to the child, verbally modeling the response for the child, Phonemic prompts, instructing the child about the desired response, and emphasizing through inflection the important aspect of an SD (e.g., "Stand up").
Use the least intrusive prompt possible while still achieving a success, such as pointing toward the correct item rather than physically guiding the child's hand to it.
Care must be taken to fade prompts, in order to have the child perform the task independently.
Avoid inadvertent prompts, such as glancing at the correct item, or mouthing the correct answer.

Intertrial Interval
This is the pause between each discrete trial

The intertrial interval should be long enough so each trial is distinct, but not so long that the child loses focus or begins alternative behaviors (about 1-3 seconds).

Prompting and Fading

Definitions
Prompt: additional stimulus, which facilitates responding
Fading: systematic reduction of intensity of prompt

Kinds of prompts
Hand over Hand- Full prompt of motoring child through entire response.
Physical - Physical guidance to the correct response
Modeling -imitation of correct response by the teacher
Verbal instruction - directing the child to the correct response through verbal cues. (e.g., "That one", "The one next to you")
Verbal – Instruction of “Say (word/sound)”
Phonemic – Partial verbal prompt of initial sound (e.g. ca for cat)
Indirect Modeling = indirect demonstration (should be peer, rather than teacher)
Nonspecific - gesture/glance/pointing
Voice inflection - "Touch MY nose"
Recency - short latency, no interference (e.g., responds correctly, give that same SD again so the correct response as a prompt)
Position/proximity = placing the target stimuli closer to the child
Priming - Linking to previously learned response (e.g., receptive as prompt for expressive - giving the receptive SD of "Touch car" just prior to giving the expressive SD of "What is it?")

How to do it

1. Select responses, which are a little higher than present level
2. Choose stimuli that facilitate a correct response
3. Establish prompt sequence/hierarchy
4. Use within-stimulus prompt
5. Make sure prompt is fadeable
6. Present prompt simultaneously with (or immediately after) the SD
7. Start with full prompt and 100% reinforcement
8. Gradually fade prompt
9. Use differential reinforcement (e.g., giving mildly reinforcing rewards for prompted trials and using the more powerful reinforcements for unprompted trials)
10. Once a step is learned, do not use primary reinforcers for prompted trials

Important tips:

Systematically fade the use of the prompt
Don't get child hooked on prompts
Don't allow repeated failures. Help the child to be correct at least 80% of the time
Use graduated prompts and continuously monitor the child's response to prompts.
Use the least amount of prompts necessary (e.g., do not use a physical prompts if a pointing prompt is sufficient)
Watch for unintended prompts (e.g., looking at the apple while giving the SD, "touch apple")

Shaping

The rewarding of successive approximations.

Used to improve the topography of a child's response so that the response topography matched the desired behavior

Important tips
Is only used after a child has already responded correctly
Reinforcement should occur only after the shaping has occurred.

Mastery Criteria

For mastering targets within a Goal/Program

For most goals/programs:
Each target should be mastered until at least one 100% is obtained in Mass Trial (MT)
Such target is then rotated with other mastered targets from the same program until two consecutive 80% have been obtained - Random Rotation (RR)
After each target is mastered (through both MT and RR) it is placed on review at the specified criteria (usually once per day, or once per session)