



FIRSTPATH
AUTISM

Glossary

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— A —

What is Autism Spectrum Disorder?

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that impairs a child's ability to communicate and interact with others. It also includes restricted repetitive behaviors, interests and activities. These issues cause significant impairment in social, occupational and other areas of functioning.

Autism Spectrum Disorder is now defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) as a single disorder that includes disorders that were previously considered separate — Autistic Disorder, Asperger's Syndrome, Childhood Disintegrative Disorder and Pervasive Developmental Disorder Not Otherwise Specified.

A-B-C Model

The **A-B-C model** illustrates the relationship between antecedents, behaviors, and consequences in the following way:

antecedent → behavior → consequence

Antecedent Stimulus

An **antecedent stimulus** is any thing, event, or condition that precedes a behavior and that can affect behavior.

Applied Behavior Analysis

Applied Behavior Analysis (ABA) is the application of behavioral procedures to socially significant behaviors. These behavioral procedures are based on the study of human behavior (Behavior Analysis) and basic learning theory.

One of the applications of ABA is in the treatment of Autism Spectrum Disorder.

Artificial Reinforcers

Artificial reinforcers do *not naturally* follow as a consequence to a particular behavior. Artificial reinforcers often are not naturally related to the task. However, artificial (or planned) reinforcers are often needed at the beginning of intervention to help motivate the child to complete the tasks s/he is given. An example of an artificial reinforcer would be:

Teacher shows the child a doll and asks, "What is this?" The child correctly responds "doll", and then receives a drink of juice.

In this example, the juice has no natural relationship to the doll. The child was not asked to request for juice but instead was asked to label a doll. Also, a typically developing child would not expect to get a drink of juice every time s/he labeled a doll correctly. Mom wouldn't do it, and the teacher at school wouldn't do it either. It's artificial to this situation, but at first, it may be what the child needs to reinforce correct labeling of the doll.

– B –

Behavior Analysis

Behavior analysis is the comprehensive study of human behavior and the science of behavior change, focusing on the functional relations between behavior and environmental events. Applied Behavior Analysis is the systematic approach to analyzing and changing behavior, using behavioral principles and methods.

Behavior Intervention Plan (BIP)

Behavior Intervention Plan (BIP), also known as a Positive Behavior Intervention Plan, is a detailed document drawn up that includes the behavior's operational definition, typical antecedents to the behavior and consequences of the behavior, hypothesized function(s) of the behavior (a functional analysis of the behavior), prevention techniques, replacement behaviors, teaching strategies, reinforcement schedules, and correction procedures (i.e., reactive strategies). This plan is designed to give all team members a written document to refer to, to ensure consistency in preventing and consequating targeted behaviors and for appropriate teaching and reinforcement of replacement behaviors. If everyone working with the child does not follow the plan consistently, it will not be effective in decreasing maladaptive behaviors or increasing replacement behaviors. In fact, maladaptive behaving could even increase and worsen if the BIP is not implemented correctly and consistently. Consistency in implementation is absolutely necessary for a BIP to be effective.

– C –

Consequence

A **consequence** is any stimulus, event, or condition that occurs after the behavior, and that is produced by the behavior. A consequence can be a **reinforcer**, which will increase the chance that the behavior will occur again, or a **punisher**, which will decrease the chance that the behavior will occur again. Simply put, consequences affect behavior. By choosing which consequences follow a certain behavior, we can increase or decrease the likelihood that the behavior will happen again.

– D –

Discrete Trial Training (DTT)

Discrete Trial Training (DTT) or Discrete Trial Instruction (DTI) focuses on teaching single units of behavior, and employs a concrete model that is a more specific version of the A-B-C model (a stimulus, a response, and a consequence).

In DTT, targeted skills are broken down into small attainable tasks, skills are built up in a hierarchical manner, and procedures such as Shaping, Chaining, and Task Analysis are used. DTT is a well-established effective intervention technique for teaching various language skills, social skills, self-help skills, academic skills, and other functional skills to children with Autism Spectrum Disorder. Combining DTT with other forms of teaching, such as Incidental Teaching or Natural Environment Training, helps children with Autism Spectrum Disorder to generalize and transfer skills from a DTT teaching situation to everyday environments and situations.

Discriminative Stimulus (SD)

When a certain behavior occurs in the presence of a certain stimulus, that certain stimulus is referred to as a **Discriminative stimulus (SD)**.

– E –

Establishing Operation (EO)

The term **Establishing operation (EO)** (also known as **Motivating operation**) refers to an antecedent change in the environment that alters the

effectiveness of a reinforcer and also responding that previously produced the reinforcer. We can see this with deprivation and satiation. For example, if it is hot outside and a child has been running around in the heat for 20 minutes with no liquids, the child is likely in a "state" of deprivation for water (is "thirsty") and the reinforcing value of water is likely increased. As a result, asking for water will probably happen more frequently in this condition, and when the child asks for water, the child receives water. Compare this situation to one where the child has been sitting in an air-conditioned room watching TV for the last 20 minutes. The child just finished drinking a full glass of ice water, and Mom refilled it immediately. In this situation, the child is not in a state of deprivation for water—the child just drank an entire glass and has another full glass of water immediately available. The reinforcing value of water is probably pretty low in this situation, and the behavior of saying "I want water" is unlikely to occur. The glass of water is the same; however, the context has changed, and this change affects how potent a potential reinforcer will be AND how likely the child will be to request this item.

Extinction

Extinction is when reinforcement of a previously reinforced behavior is discontinued.

Extinction Burst

When, as part of a behavioral strategy, reinforcement is withheld for a maladaptive behavior, the maladaptive behavior may at first get worse before it gets better. This is an **extinction burst**. An extinction burst is often a child's response to having reinforcement withdrawn that historically followed a maladaptive behavior. Because the maladaptive behavior up to this point has reliably *worked* for the child getting certain wants and needs met quickly, the child resists giving up this behavior and having to learn a new way to get wants/needs met. An extinction burst can take the form of maladaptive behaviors becoming more frequent, longer in duration, and/or more severe in intensity (e.g., child cries longer than usual to get his/her way; crying escalates to yelling & tantrums; etc.) Remember that the behavior only existed in the first place because of a history of reinforcement, and the longer and stronger that history, the more practiced the child is at maladaptive behaving. However, with appropriate behavioral interventions in place, a *new* pattern of behaving and reinforcement is introduced, teaching the child that appropriate behaving will work to get wants/needs met, as maladaptive behaving ceases to work. If behavioral strategies are implemented properly and consistently, an extinction burst, should it occur, will calm down and more quickly as positive strategies take hold. Although some form of extinction is likely to occur with any kind of behavior change

intervention, procedures that may result in a high risk of an unsafe and uncontrollable extinction burst for the child's specific maladaptive behaviors should be avoided when possible or at least lessened so that unsafe uncontrollable situations are less likely to occur during "the burst".

– F –

Functional Analysis

A **Functional analysis** analyzes functional relations between antecedents, behaviors/responses, and consequences.

– G –

Generalization

In program, **generalization** refers to behaviors and skills learned in a training situation that transfers to non-training situations (across different settings, people, and/or situations). Many children with Autism Spectrum Disorder are said to suffer from a "failure to generalize" – they learn to exhibit skills in very specific circumstances but not in others. An example of this would be a child who can recite ABC's at school but not at home. Another example is a child who can cut out shapes only out of blue construction paper, but not with any other color of paper. And another example is a child who can match flashcards when told "Match flashcards" but who can't do it without first being told to do so or who can't do it with an instruction worded any differently. Therefore, it is very important that any educational program for a child with Autism Spectrum Disorder includes multiple examples presented along with opportunities to generalize across settings, across people, and across stimuli.

– H –

– I –

Incidental Teaching

Incidental Teaching is a form of teaching that takes advantage of natural unplanned learning opportunities. With Incidental Teaching, the adult/teacher capitalizes on naturally occurring situations to create a teaching opportunity. It differs from Natural Environment Training (NET) in that Incidental Teaching is not pre-planned. Incidental Teaching requires

creativity on the part of the teacher and the ability to think on one's feet. Incidental Teaching is important because it can be an important aid in generalization to natural activities and routines, and because it capitalizes on the child's choice and interests outside of structured activities. With Incidental Teaching, instruction is done in an impromptu way, such as when the child and adult are playing with a favorite toy or coloring. Depending on the child's familiarity and level of mastery with colors, Incidental Teaching might consist of simply labeling the toy's color for the child during play, asking the child what color crayon s/he has, or making different colored marks on a page and having the child show you which crayon made each color (matching). These very same activities and responses could also be a part of NET; however, the difference is that with NET, the teacher would have set up the activities with goals in mind and targeted them specifically, whereas Incidental Teaching is spontaneous.

– J –

– K –

– L –

– M –

Maladaptive Behavior

A behavior can be described as a **maladaptive behavior** when it is problematic. In order for a behavior to be considered a maladaptive behavior, it should meet at least one of the following criteria:

Pose a danger / threat to self, others, and/or property.

Prevent / get in the way of the child learning.

Is socially stigmatizing—can adversely affect perceptions by, and relationships with, others.

– N –

Natural Environment Training (NET)

Natural Environment Training (NET) is a teaching format often used in conjunction with Discrete Trial Training. NET is a less- structured teaching format that is often conducted away from the table or work situation in various environments of the home, school, or community. While the teacher guides the session and has targets for teaching planned, the teacher creatively fits his/her material in with the child's current interests. For example, if the teacher needs to target colors and counting, and the child is currently interested in tossing beanbags; the teacher can teach colors and counting within that activity. Or, maybe the child is interested in playing a board game. The teacher could target colors and counting while playing Candy Land. The goal is to help the child generalize skills into the natural environment with natural materials, activities, and reinforcers.

Natural Reinforcers

Natural reinforcers are items/activities that often naturally follow as a consequence to a particular behavior in everyday situations. Social praise is a great example of a natural positive reinforcer. Children are often praised for knowing the answers to certain questions or being able to complete an activity. As children become adults, they learn that social praise is one of the most common positive reinforcers in our society. To help the child place value on this type of reinforcer, social praise should be paired with other types of reinforcers. Often, children with Autism Spectrum Disorder do not value social praise and interaction as a typically developing child does, so by pairing social praise and interaction with other items that are already reinforcing, we condition praise as a reinforcer. There are many other types of natural reinforcers. In order to determine if a reinforcer is natural, look at the situation/task and ask, "Would this item/activity normally follow this task in a home or school?" Examples utilizing natural reinforcers:

Teacher says, "What is this?"
Child answers, "Doll."
Result: Child gets to play with doll.

Teacher says, "Finish your worksheet"
Child completes it.
Result: Child gets a break.

Teacher says, "Wash your hands"
Child completes it.
Result: Child gets to eat a snack.

In each of these examples, what followed the appropriate behavior was a consequence that could normally occur after that task. But remember: in order for these consequences to be considered truly reinforcing, they must increase the likelihood that the behaviors/responses preceding them will reoccur in future.

Negative Reinforcement

Negative reinforcement is when engaging in a behavior terminates something aversive, and so the next time the child wants to avoid something aversive or wants it to be terminated or removed, the child engages in that behavior again. An example of this is when a child learns that turning down the volume (behavior) decreases loud music that is hurting the child's ears (aversive condition) -- the next time the music is too loud, the child is likely to again turn down the volume.

Negative Punishment

Negative punishment is when removing something decreases a behavior over time (example: Child whines. Parent removes computer access for the night. As a result, child's whining decreases in future).

— O —

Operant Behaviors

An **Operant behavior** is a behavior that can be modified by its consequences. These behaviors increase or decrease based on the consequences they produce.

— P —

Positive Reinforcement

Positive reinforcement is when adding something results in an increase or maintenance of behavior over time (e.g., child's studying resulted in a good

grade and gold star, so the child continues to study or studies even harder for the next test).

Positive Punishment

Positive punishment is when adding something decreases a behavior over time (e.g., child yelled out inappropriately in class; child receives a red mark on the board; child stops yelling).

Picture Exchange Communication System (PECS)

The **Picture Exchange Communication System (PECS)** by Andy Bondy · Lori Frost utilizes icons, each with a picture and a word on it, which the speaker physically exchanges with the listener in order to communicate. For example, in a basic teaching phase of requesting with PECS, if the speaker (typically the child) wants an apple, the speaker will give the listener (initially is typically the adult) an icon with a picture of an apple and the word "apple" above the picture. The listener vocalizes what is on the icon ("Apple") to model the word for the speaker, and then gives the speaker an apple. PECS' training as it advances also includes using attributes (e.g., color; size) and requesting with phrases, such as "I want". PECS reaches a fairly large verbal community because any listener who can read or understand a picture can easily use and understand this mode of communication with minimal training, as opposed to a form of communication that has a smaller verbal community and that requires more complex training, such as Sign Language. For example, if the listener is a member of the vocal and written communities, the listener may not understand if someone approached him/her and signed "apple". The listener probably would understand, however, if someone approached and handed him/her a picture of an apple with the word "apple" on it.

– Q –

– R –

Reinforcer

A **reinforcer** is a stimulus or event that follows a behavior and increases the likelihood of that behavior happening again.

– S –

Sign Language

With **Sign language**, the speaker utilizes his/her own hands to make visual gestures and signs that represent letters and words. Sign language requires good fine motor skills and coordination to be able to form some of the more complex hand signals and communication. Sign language classes are offered at many high schools and colleges, so that even those who can hear and speak can learn to use this mode of communication. However, Sign language is not always readily understood by listeners unfamiliar with it and so is not always as effective as other modes of communication in some verbal communities.

Shaping

Shaping is the differential reinforcement of successive approximations of a target behavior. We use **shaping** as a teaching strategy for many skills because it is effective in producing new behaviors in less time, there are fewer overall errors by the child which can also translate to more positive reinforcement more often, and there is overall less prompting involved. If we know that a child cannot perform a certain entire task, we keep that target task in mind, and begin reinforcing small steps of that task that the child can more easily perform. Systematically and as the child learns a step, we raise the bar for the level of performance required to gain reinforcement, until the child is ultimately performing the entire target task (such as tying shoes, pronouncing words correctly, and writing alphabet letters). Shaping utilizes Differential reinforcement, which is the reinforcement of some responses and not others.

Stimulus Control

A stimulus is any physical event, combination of events, or relation among events. Stimuli are people, places, and things, and can take place inside the body (internally) or externally (environment). When a behavior occurs more or less frequently in the presence or absence of a certain stimulus, it is said that the behavior is under **stimulus control**. When you drive and stop at a red traffic light and go at a green traffic light, your driving behavior here can be said to be under the stimulus control of the traffic light.

– T –

Task Analysis:

A **Task analysis** entails breaking down a complex skill or series of behaviors into smaller, teachable units. In order to do this, we first make a list of all the individual steps required to complete the task and this list is called a Task Analysis. Each component is presented sequentially in its order of occurrence. Many complex, multi-step skills can be more effectively taught by teaching and then chaining together single units of behavior, in sequence, until the entire routine is complete. This sequence can be taught using Forward Chaining (teaching first step to last) or Backward Chaining (teaching last step to first). Although Task analyses can be effective with many varied complex skills, Task Analyses are especially useful when teaching self-help skills, such as brushing teeth, hand washing, and making beds.

– U –

– W –

Written Communication

One common non-vocal mode of communication is **written communication**. Written communication includes typing as well as handwriting. This verbal community is very large, but slightly smaller than that of vocal communication because children often cannot read before age 5 or 6, and there are unfortunately some individuals who never learn to read but who do understand speech.

– X –

– Y –

Verbal Behavior

Verbal behavior (VB) is behavior that occurs between a speaker and a listener, with its consequences mediated (or controlled) by the listener. Verbal behavior can take many forms. It can be vocal, a gesture, sign language, use of the Picture Exchange Communication System (PECS), and

more. Therefore, within this glossary as well as throughout our program's terminology and application, "verbal" means any form of functional communication between a minimum of two people, wherein the listener controls the consequences (which can be either reinforcing or punishing). "Vocal" refers to any utterance produced by the vocal cords, whether it is a fully formed word or simply a sound. Verbal Behavior includes any vocal or non-vocal form of communication that is reinforced and mediated by others, and that helps people more effectively and efficiently get what they want and avoid what they don't want. Some individuals with Autism Spectrum Disorder never learn to speak, but they can be taught to express themselves, converse, and get their wants/needs met via other non-vocal modes of communication.

Vocal Communication

The most common mode of communication is vocal. **Vocal communication** has the largest **verbal community**; that is, the group of people who communicate using this method and/or can understand this method is larger. Within vocal communication, there are also communities that speak or understand different languages. Each language, then, in a sense, represents a separate verbal community.

– Z –