PFA Tips

Using Applied Behavior Analysis with Individuals with ASD

Did you know that Applied Behavior Analysis (ABA) uses the same principles as those used to train animals at zoos or the ever popular water shows? These methodologies also drive major corporations and organizations in the development of staff management and company morale. For example, the rewards that some businesses use for sales representatives are built on foundations common in ABA! From losing weight to addiction, ABA has helped many individuals. While giving presentations, I often say, "I have a husband, 2 kids, a dog, and a cat, and I use ABA with every one of them. And the only being it hasn't been as successful with is my cat!" So how can ABA help individuals with ASD? Let's look at some of the key principles.

What is ABA?

ABA seeks to determine the relationship between what is going on in the environment and the behavior itself. Ultimately, this relationship can help us figure out how to affect behavior, and in the end, we may be able to make changes that lead to behavior improvement. The best part about all of this is that this is a science – one that has been around since 1913. That's over a century of support for this approach!

What is reinforcement?

In ABA, reinforcement refers to the increase in a behavior due to the presentation or removal of something immediately after the behavior occurs. Because of the thing that was added or removed, the behavior is more likely to occur in the future. For example, when my family goes out to eat, my children are generally well-behaved while looking at the menus and giving the server our order. Somewhere during the 15-20 minute wait for our food to arrive, their behavior deteriorates. As their behaviors worsen, my husband and I hand over our phones so they can play games or watch shows. This pattern repeats itself during most restaurant visits.

This is actually an example of positive reinforcement. Positive does not mean good; it simply means something was added after the behavior occurred. In the above example, adding the phones is what makes it positive reinforcement. Conversely, negative reinforcement does not mean it's bad. Negative reinforcement refers to when something is removed after the behavior occurs, and the removal causes a future increase in the behavior. Because it is also a type of reinforcement, it leads to a behavior increase. For example, in schools, I often hear teachers tell the class, "If everyone does well on this test, there won't be any homework." This is only considered reinforcement if the behavior increases, so during the next test, if the students do well again, then removing the homework successfully reinforced the behavior.

How does reinforcement help me?

Many people think of positive reinforcement when they think of ABA, such as giving kids food for doing things right. While this could be a form of reinforcement, the truth is that reinforcement occurs every day in many ways for any skill acquired. Over time the reinforcement fades.

Consider a basic math skill, such as 2+2=4. As children, this skill is taught by a teacher and probably reinforced through several mediums: verbal praise (positive reinforcement), stars/stickers/smiley faces on tests or homework (positive reinforcement), and avoidance of being told one is wrong in front of peers (negative reinforcement). As a student acquires the concept that 2+2=4, the frequency of these reinforcers fades so that perhaps they only

occur after a test or a report card. As time goes on, though, students do not forget that 2+2=4, so the behavior must be reinforced other ways. As a person ages, knowing that 2+2=4 becomes foundational for tasks like buying groceries or managing finances. An individual continues to demonstrate this skill because of naturally occurring reinforcers: having the right amount of ingredients for a recipe (positive reinforcement), or making sure a purchase doesn't cause an overdraft on a bank account (negative reinforcement).

How do I know what's reinforcing?

It's important to remember that every person is different in what is reinforcing for them. Remember, the only true way to know if something is an effective reinforcer is to see the behavior increase. To really understand what is reinforcing for any one person, you have to know what motivates them. If something is highly valuable as a reinforcer, a person will do whatever they know to do in order to get that reinforcer.

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For example, if chocolate is very valuable to me as a reinforcer, then I perform all the behaviors I know of that get me chocolate, such as going to a store and buying it. Keep in mind, what is valuable at one time may not be valuable at another time. Chocolate may be very valuable at the end of a long work week, but low in value at 5am when the alarm goes off.

How do I know what to target?

Knowing how reinforcement works and what is reinforcing for an individual lays the groundwork for effective skill-building and learning. With this tool in hand, you can better assess the situation and create a plan for change. Focus on what behaviors you want to see happening, develop an attainable goal, determine if any teaching needs to occur, and provide reinforcement for achievement of the skill/goal.

Think about the example of the 2+2=4. This is a very basic skill and in order for it to be acquired, reinforcement had to occur. When picking a goal, consider all the skills necessary to achieve the goal. Look at the situation and determine if all these skills are in the child's repertoire. Some may require teaching and immediate reinforcement. Others may need to be put on hold until pre-requisite skills are learned. Break down the larger task into smaller, more attainable chunks; then, decide how you will reinforce each task. As these become mastered, provide reinforcement for demonstrating other, perhaps more complex steps in the overall goal. Then, when your child is starting to demonstrate the larger goal, provide reinforcement at the end of this longer, complex skill. Once it becomes a more fluent skill, determine how you can fade reinforcement out or make it a more naturally occurring reinforcer.

Let's look at an example

A family once reached out and said, "We want our son to be able to go out to a sit-down dinner with us." Like many families, they felt this was a huge deal because they ultimately wanted to have the option to enjoy food made by professionals, and as his mom said, "just not have to cook and clean up dirty dishes afterward." The couple enjoyed eating out when they could find a sitter, but they wanted to be able to do this with their whole family, including extended family visiting over holidays. It was an important goal. So, we took this end-goal – eating at a sit-down restaurant – and broke it into manageable steps as well as pre-requisite skills. It looked like this:

Pre-requisite skills: tolerating last minute routine change, riding in the car at odd times, getting in and out of the car at new places, appropriate behavior in parking lots, sitting or standing for long periods of time, waiting at the table

Manageable steps: going to fast food or quick-serve places and taking food away to eat at home, going into fast food or quick-serve places and eating there, going into slower-paced eateries where you get your own food (like a Panera Bread), going into faster sit-down places (such as a diner), and last, going into a sit-down restaurant

Then we planned out the reinforcement! We decided that we would use high preference items for positive reinforcement while targeting a specific skill and/or step, and we set mastery criteria as any time this skill or step was performed without any inappropriate behaviors. We used small edibles and movies, and we would practice the pre-requisite skills many times per day using these reinforcers. Once the family's son could tolerate performing the pre-requisites without demonstrating inappropriate behaviors, we faded the reinforcement and moved on to the list of steps. Again, they used high preference items to reinforce his calm, quiet behavior, which we did throughout practicing each step. Specifically, while he was waiting for food to arrive, he was allowed to play with toys. Initially, these toys started as a special bag of high preference, restaurant-only toys; this way he was highly motivated to play with them when he saw them! Over time, as he became better and better at tolerating waiting for his food, the reinforcement turned into crayons & paper or books, which are more likely to be available at family-friendly restaurants. The family practiced as much as they could during off-peak restaurant hours in order to give their son the best chance possible while he was learning. They looked at menus ahead of time not only to diminish wait times but also to choose places that had his preferred foods. This built natural reinforcement into the process. We slowly worked through each pre-requisite skill and step, and eventually, they were able to take him to a great, sit-down restaurant – behavior free! The family was thrilled, and it was great seeing the improved quality of life.

These are just some examples of how ABA can benefit an individual with autism's life and the life of his or her family. Whatever the goal, the use of reinforcement is key to developing, acquiring, and maintaining that skill!

Additional Resources

Find an ABA Therapist
Select category Therapies>Applied Behavior Analysis
http://pathfindersforautism.org/providers-services/

Toolkit from Autism Speaks: Parent's Guide to Applied Behavior Analysis
https://www.autismspeaks.org/science/resources-programs/autism-treatment-network/atn-air-p-applied-behavior-analysis

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