BrainOptimax
TRANSFORMING LIVES THROUGH NEUROSCIENCE

APPLIED BEHAVIOR ANALYSIS

ABA

WHAT IS ABA?

WHAT IS THE DEFINITION OF APPLIED BEHAVIOR ANALYSIS?

IN A GIST

ABA is the application of the principles of learning and motivation from Behavior Analysis.

Behavior Analysis is the scientific study of behavior. Applied Behavior Analysis (ABA) is the application of the principles of learning and motivation from Behavior Analysis, and the procedures and technology derived from those principles, to the solution of problems of social significance. Many decades of research have validated treatments based on ABA.

The Report of the MADSEC Autism Task Force (2000) provides a succinct description, put together by an independent body of experts:

Applied behavior analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behaviors to a meaningful degree, and to demonstrate that the interventions employed are responsible for the improvement in behavior (Baer, Wolf & Risley, 1968; Sulzer-Azaroff & Mayer, 1991).

Over the past 40 years, several thousand published research studies have documented the effectiveness of ABA across a wide range of:

- Populations (children and adults with mental illness, developmental disabilities and learning disorders)
- Interventionists (parents, teachers and staff)
- Settings (schools, homes, institutions, group homes, hospitals and business offices), and
- Behaviors (language; social, academic, leisure and functional life skills; aggression, selfinjury, oppositional and stereotyped behaviors)

WHAT DOES
ABA INTERVENTION
INVOLVE?

Effective ABA intervention for autism is not a "one size fits all" approach and should never be viewed as a "canned" set of programs or drills. On the contrary, a skilled therapist customizes the intervention to each learner's skills, needs, interests, preferences and family situation.

For these reasons, an ABA program for one learner will look different than a program for another learner. That said, quality ABA programs for learners with autism have the following in common:

Planning and Ongoing Assessment

- A qualified and trained behavior analyst designs and directly oversees the intervention.
- The analyst's development of treatment goals stems from a detailed assessment of each learner's skills and preferences and may also include family goals.
- Treatment goals and instruction are developmentally appropriate and target a broad range of skill areas such as communication, sociability, self-care, play and leisure, motor development and academic skills.
- Goals emphasize skills that will enable learners to become independent and successful in both the short and long terms.

- The instruction plan breaks down desired skills into manageable steps to be taught from the simplest (e.g. imitating single sounds) to the more complex (e.g. carrying on a conversation).
- The intervention involves ongoing objective measurement of the learner's progress.
- The behavior analyst frequently reviews information on the learner's progress and uses this to adjust procedures and goals as needed.
- The analyst meets regularly with family members and program staff to plan ahead, review progress and make adjustments as needed.

ABA Techniques and Philosophy

- The instructor uses a variety of behavior analytic procedures, some of which are directed by the instructor and others initiated by the learner.
- Parents and/or other family members and caregivers receive training so they can support learning and skill practice throughout the day.
- The learner's day is structured to provide many opportunities – both planned and naturally occurring - to acquire and practice skills in both structured and unstructured situations.
- The learner receives an abundance of positive reinforcement for demonstrating useful skills and socially appropriate behaviors. The emphasis is on positive social interactions and enjoyable learning.
- The learner receives no reinforcement for behaviors that pose harm or prevent learning.

WHAT KIND OF PROGRESS CAN BE EXPECTED WITH ABA?

ABA is an **objective discipline** which focuses on the reliable measurement and objective evaluation of observable behavior. Competently delivered ABA intervention can help learners with autism make meaningful changes in many areas. However, changes do not typically occur quickly. Rather, most learners require intensive and ongoing instruction that builds on their step-by-step progress. Moreover, the rate of progress – like the goals of intervention – varies considerably from person to person depending on age, level of functioning, family goals and other factors.

Some learners do acquire skills quickly. But typically, this rapid progress happens in just one or two particular skill areas such as reading, while much more instruction and practice is needed to master another skill area such as interacting with peers.

ABA methods are used to support people with autism in at least six ways:

1 To increase behaviors

e.g. reinforcement procedures increase on-task behavior, or social interactions

2 To teach new skills

e.g. systematic instruction and reinforcement procedures teach functional life skills, communication skills, or social skills

3 To maintain behaviors

e.g. teaching self control and self-monitoring procedures to maintain and generalize job-related social skills);

4 To generalize or to transfer behavior from one situation or response to another

e.g. from completing assignments in the resource room to performing as well in the mainstream classroom

5 To restrict or narrow conditions under which interfering behaviors occur

e.g. modifying the learning environment

6 To reduce interfering behaviors

e.g. self injury or stereotypy

DISCRETE TRIAL TRAINING

DEFINITION

DISCRETE TRIAL TRAINING (DTT) IS A PARTICULAR ABA TEACHING STRATEGY WHICH ENABLES THE LEARNER TO ACQUIRE COMPLEX SKILLS AND BEHAVIORS BY FIRST MASTERING THE SUBCOMPONENTS OF THE TARGETED SKILL.

Initially, ABA programs for children with Autism utilized only (DTT), and the curriculum focused on teaching basic skills as noted above. However, ABA programs, such as the program implemented at Optimax, continue to evolve, placing greater emphasis on the generalization and spontaneity of skills learned. As patients progress and develop more complex social skills, the strict DTT approach gives way to treatments including other components.

For example, if one wishes to teach a child to request a a desired interaction, as in "I want to play," one might first teach subcomponents of this skill, such as the individual sounds comprising each word of the request, or labeling enjoyable leisure activities as "play." By utilizing teaching techniques based on the principles of behavior analysis, the learner is gradually able to complete all subcomponent skills independently. Once the individual components are acquired, they are linked together to enable mastery of the targeted complex and functional skill. This methodology is highly effective in teaching basic communication, play, motor, and daily living skills.

Specifically, there are a number of weaknesses with DTT including the fact the DTT is primarily teacher initiated, that typically the reinforcers used to increase appropriate behavior are unrelated to the target response, and that rote responding can often occur. Moreover, deficits in areas such "emotional understanding," "perspective taking" and other Executive Functions such as problem solving skills must also be addressed and the DTT approach is not the most efficient means to do so.

Although the DTT methodology is an integral part of ABA-based programs, other teaching strategies based on the principles of behavior analysis such as *Natural Environment Training* (NET) may be used to address these more complex skills. NET specifically addresses the above mentioned weaknesses of DTT in that all skills are taught in a more natural environment in a more "playful manner."

Moreover, the reinforcers used to increase appropriate responding are always directly related to the task (e.g. a child is taught to say the word for a preferred item such as a "car" and as a reinforcer is given access to the car contingent on making the correct response). NET is just one example of the different teaching strategies used in a comprehensive ABA-based program. Other approaches that are not typically included in strict DTT include errorless teaching procedures and Fluency-Based Instruction.

At Optimax, all appropriate teaching approaches based on the well grounded principles of applied behavior analysis are utilized.

HOURLY ABA THERAPY

Hourly 1:1 centre-based services are designed for families who are looking for assistance. A minimum of 3 hours of therapy per week is required.

Hourly services include the following:

- A comprehensive, in-depth assessment (EEG, QEEG, CARS, ATEC)

- Program development based on individual needs of the child and family

- Plan training for parents, caregivers, therapists, aides and teachers

- Program implementation

- Behavior plan development

- Verbal Behavior plans and training

- Self-care and daily living skill acquisition*

- Toilet training

*Limited or Homework-based

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