Applied Behavior Analysis for Autism

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Recent years have seen a surge of interest in applied behavior analysis (ABA) in the treatment of autism. Scores of programs and practitioners claiming to "do ABA" have popped up, some seemingly overnight. Many stories about ABA for autism have appeared in the electronic and print media, and various task forces and committees have undertaken to evaluate published research on ABA and other approaches to autism treatment. Yet misconceptions about ABA – including some that have been around for years – persist, and many treatment programs that claim to be "doing ABA" really are not. How can families, professionals, and funding agencies differentiate genuine ABA programs and practitioners from posers? It is difficult to paint a picture of genuine ABA treatment for autism in words, especially in a limited space, but this article attempts to describe some of its key features.

Behavior analysis is a natural science approach to understanding behavior; ABA is the use of behavior analytic methods and research findings to change socially important behaviors in meaningful ways. Autism is only one of many arenas in which behavior analysis has been applied successfully. Since the early 1960s, hundreds of researchers have documented the effectiveness of ABA principles and methods for building a wide range of important skills and reducing problem behavior in individuals with autism and related disorders of all ages. Today, *bona fide* ABA programming for learners with autism often combines many research-validated methods into a comprehensive but highly individualized package. For each learner, skills to be increased and problem behaviors to be decreased are clearly defined in observable terms and measured carefully by direct observation, with independent verification by secondary observers. An initial assessment is done to determine skills that the learner does and does not have. Selection of treatment goals for each individual is guided by data from that initial assessment, and a curriculum scope and sequence that lists skills in all domains (learning to learn, communication, social, academic, self-care, motor, play and leisure, etc.), broken into smaller component skills and sequenced developmentally, or from simple to complex. The overall goal is to help each learner develop skills that will enable him or her to be as independent and successful as possible in the long run.

A variety of behavior analytic procedures are used to strengthen existing skills and build those that have not yet developed. That involves explicitly arranging for the learner to have multiple, repeated opportunities to learn and practice skills throughout every day, with abundant positive reinforcement. One way to arrange learning opportunities is for an adult to present a series of trials to the learner, each consisting of a specific cue or instruction from the adult, an opportunity for the learner to respond, and a consequence delivered by the adult depending on the learner's response. Such arrangements are called discrete trials, and they are essential for building many important skills in learners with autism. But programming that relies exclusively on discrete trial procedures – often referred to as "discrete trial training" or "DTT" – is not state-of-the art ABA, particularly when "drills" are used in a cookbook fashion that is not individualized to each learner. Research has shown that overusing discrete-trial procedures tends to produce skills that do not carry over (generalize) from the training situation to other everyday situations. For that reason, effective ABA programming blends discrete-trial procedures with a variety of other ABA methods, including child-initiated instructional sequences (known as incidental teaching

procedures), task analysis and chaining to teach skills involving sequences of actions or steps, instructional trials embedded in ongoing activities, and others. There is a heavy emphasis on making learning enjoyable, and on engaging the learner in positive social interactions.

In a quality ABA program, behavior change procedures are specified clearly. The instructions and prompts, reinforcers ("rewards"), materials, and so on that are used to develop each skill are tailored to the individual learner. There is a written program or set of instructions for teaching each skill; the behavior analyst in charge of the programming trains everyone who works with the learner to implement those programs consistently. It is particularly important for parents to be trained to implement the procedures outside of formal treatment sessions, in a variety of settings (home, playground, community); research has shown that otherwise, the learner's skills are not likely to generalize. Maladaptive behaviors (such as stereotypic behavior, self injury, aggressive and disruptive behavior) are explicitly not reinforced; appropriate alternative behaviors are taught and reinforced instead. Learner progress is measured frequently, using the direct observational measurement methods mentioned earlier. Data are graphed to provide visual pictures of what is happening with each skill and each maladaptive behavior targeted for treatment. The data are reviewed regularly by the behavior analyst directing the programming so that learning errors can be caught early and intervention methods adjusted promptly if progress is not satisfactory. The behavior analyst also observes treatment and provides feedback to interventionists on an ongoing basis.

Last but certainly not least, a defining feature of ABA programs is that they are directed by professionals with advanced formal training in behavior analysis – at least a master's degree – as well as supervised experience in designing and implementing ABA programming for learners with autism and related disorders. These professionals have either met the educational, experiential, and examination performance standards of the Behavior Analyst Certification Board and are Board Certified Behavior Analysts, or can document that they have at least the equivalent training and experience. They adhere to the BACB's Guidelines for Responsible Conduct, and base treatment on the best available scientific evidence. For further information about the training and skills required to direct ABA programming for learners with autism, see the guidelines for consumers developed by the Autism Special Interest Group of the Association for Behavior Analysis in this section of behavior.org.

Dr. Gina Green serves on the Board of Trustees of the Cambridge Center. She currently serves as Executive Director of the Association of Professional Behavior Analysts (APBA), is a past President of the Association for Behavior Analysis International (ABA), and past President Elect of the California Association for Behavior Analysis (CalABA).