Effective strategies by any other name

In this issue of *Autism*, we are pleased to continue our “Myth Busters” series designed to provide a forum for discussion of common misconceptions in our field. This month, we examine the idea that *applied behavior analysis* (ABA) is synonymous with *discrete trial teaching*; we will also explore the false dichotomy between behavioral and developmental approaches to treating autism spectrum disorders (ASDs).

It is common practice for intervention researchers to state that ABA has the highest level of evidence of any intervention to support its effectiveness for children with autism. This view is supported in recent reviews by the National Autism Center (2009) and the National Professional Developmental Center for Autism Spectrum Disorders (Odom et al., 2010). The National Autism Center authors concluded that over 90% of the published studies reviewed relied on intervention strategies or comprehensive models based on behavioral principles (Suhrheinrich et al., in press). Evidence supporting ABA also has led to increased coverage for ASD services through both public service and insurance agencies. In fact, at least 37 states have laws that mandate coverage of autism services (http://www.ncsl.org/research/health/autism-and-insurance-coverage-state-laws.aspx). There are, therefore, urgent policy implications that necessitate a clear and accurate understanding of what is included in ABA.

Unfortunately, interpretation of the available research has led to a very narrow view of what is considered effective intervention for individuals with ASD and what ABA means (Dillenburger and Keenan, 2009). In fact, ABA is not a specific type of teaching but rather a particular approach to scientific inquiry, characterized by certain research designs (Cooper et al., 2007). The use of ABA has identified effective interventions for a wide variety of individuals to address an even wider variety of behaviors. Unfortunately, this generality has been all but lost. When people refer to the intervention received by a child with ASD as “ABA” or as “applied behavior analysis,” they typically are referring to a specific, highly structured form of behavioral teaching more appropriately referred to as discrete trial training (DTT; Chiesa, 2005). DTT was first described in the 1960s and was the first specific intervention shown to be efficacious for children with ASD (Schreibman, 1988). It is more correct, however, to describe DTT (and other behavioral interventions subsequently developed) as a *product* of the science of ABA. That is, ABA allowed for the identification of the specific principles that comprise DTT and other behavioral interventions. This misunderstanding and misuse of the term ABA hinders the ability of service providers, funders, and parents to fully appreciate the full potential of ABA and utilize its enduring principles. Just as crucially, it may limit access to effective interventions for individuals with ASD.

Fully understanding the range of interventions based on ABA is essential, as technique should be determined by the needs of an individual with ASD, the behavior or skill being addressed, and the context in which the intervention is implemented. Research points to the inadequacy of one single treatment approach for all areas of learning for children with ASD (National Research Council, 2001; Schreibman, 2000, 2005), or for all children with ASD (Stahmer et al., 2011b).

While DTT was one of the first behavioral interventions to show effectiveness with children with ASD, the field has evolved significantly since that time and now includes a variety of interventions, ranging from highly structured programs that require one interventionist for each child, to behaviorally based inclusion programs that involve typically developing children as models (e.g. Odom et al., 2010; Vismara and Rogers, 2010). Many of these interventions have been developed (via ABA) to specifically address short-comings of traditional DTT, including limited generalization and maintenance of skills. Some ABA-based programs are distinguishable by “brand names,” such as DTT and Pivotal Response Training (PRT), while other programs utilize the principles of ABA broadly. Some programs address specific behaviors such as toilet training or aggression while others are comprehensive, intended to address a range of learning domains or complex behaviors (e.g. social skills). There has been particular growth in naturalistic behavioral strategies, which use the principles of behavior analysis but also incorporate techniques influenced by developmental theory.

Similar to the limited view of ABA, there is confusion in the field regarding the relationship between developmental and behavioral interventions. Traditionally, there has been minimal communication and even animosity between developmental and behavioral “camps” around autism interventions. However, this hard line between
approaches appears to be a false dichotomy in many cases. In fact, although the vocabulary and theory are different, developmental and behavioral interventions have many common features in practice. For example, child initiation of the teaching episode, the use of natural reinforcement, responding to a variety of behaviors as meaningful communication (loose shaping), and an emphasis on reciprocal interaction can all be seen in both developmental and naturalistic behavior interventions. As described by Ingersoll (2010), a lack of understanding of the underlying philosophies and evolution of interventions across fields has limited potentially fruitful cross-fertilization. This absence of collaboration and at times outright competition between advocates on either side has also caused a great deal of confusion for families and community providers who implement interventions for children with ASD. In many cases, this confusion limits access to a full range of intervention options.

A growing number of interventions straddle the divide and combine techniques from both developmental and behavioral interventions. Research on these approaches has shown promising results (e.g. Dawson et al., 2010; Ingersoll and Wainer, 2013; Stahmer et al., 2011a). These interventions highlight the utility of both models and reveal the pointless nature of the debate over which side is “best” for ASD. The heterogeneity and developmental nature of the disorder make it unlikely that one specific treatment will ever be best for all children with ASD, or will work for any one child throughout his or her educational career. Interventions that combine techniques from both developmental and behavioral backgrounds may offer “the best of both worlds” and the most comprehensive support for learning. It is imperative that we, as a field, begin to understand the range of effective interventions available and learn more about the specific active ingredients necessary to optimize outcomes based on individual characteristics of people with ASD, their families, and environments.

Acknowledgements
Special thanks to my colleagues Sarah R Rieth, Laura Schreibman and David S Mandell for helping to shape this editorial with their excellent comments and brilliant discussions around this issue.

References


Aubyn C Stahmer
Editor