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Contents:

Reconciling Personal Beliefs with a Greater Understanding of Applied Behavioral Analysis: Teaching Children with Autism Spectrum Disorders (Part 2)

By Leslie S. Daniel
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Independent Study with Bonnie Billingsley [1]

[1] Though this paper was written primarily for my own benefit, the intention was to make it available to a wide audience that includes

general and special educators, paraprofessionals, parents, administrators, therapists, and others interested in teaching children with autism spectrum disorders. In order to make this paper as reader-friendly as possible I have attempted to limit the number of references included within the body of the paper. If I only found the information in one source, I noted the source. If many (or all) of my references contained similar information I did not list them individually. However, except where I note my own beliefs or opinions, all of the information provided here is research-based. For more information, please consult the reference list provided.

Discrete Trial Training

Discrete trial training is possibly the most structured and invasive behavioral intervention. It generally focuses on repetitive practice presented in blocks of time for 5-6 hours each day. A discrete trial involves the presentation of a discriminative stimulus, Sd (e.g., sit down), a response opportunity (during which the child either sits or doesn't sit), and a stimulus reinforcer (e.g., a sticker) provided by a teacher or device (e.g., a computer) to a student. The trial is discrete because its presentation is other controlled rather than learner controlled (incidental learning is a learner controlled tactic). The discriminative stimulus is the antecedent, which evokes the behavior that is followed by a consequence (reinforcement). Each response is recorded on a data sheet before continuing to the next trial, thereby engendering its discrete nature.

Discrete trial teaching is also referred to as the Lovaas Method, after Dr. O.I. Lovaas who completed the most widely sited research in using this tactic with children with autism, or Early Intensive Behavioral Intervention (EIBI) as that was the name of the project Dr. Lovaas developed. Lovaas's research was exceedingly persuasive in that he reported 47% of the children he treated during his study "recovered" from autism. This study comes under significant criticism, as Lovaas did not randomly assign children to treatment and control groups, treatment for Control Group 1 was delayed due to staff shortages, and only two outcome measures were used to quantify the efficacy of the EIBA treatment. Those two measures were IQ and educational placement. Students who were said to have "recovered from autism" were reported as being indistinguishable from their peers without disabilities; however, no data was reported to substantiate this claim.

In a study attempting to replicate the results of the EIBI project Smith, Groen, & Wynn (2000) endeavored to correct for the above-described criticisms of Lovaas's research. However, this study did not replicate Lovaas's results as hoped; only 13.3% of children achieved the "best outcomes" of normal IQ and placement in general education settings without special education services (Lovaas reported 47% in this category). They did, however, reveal two findings that are of particular interest to me: some children with ASD make large gains with EIBI, and this tactic may be especially beneficial for children with Pervasive Developmental Disorder, Not Otherwise Specified (PDD NOS). This was the only study that I read that began to identify which children could most benefit from EIBI, though the research is not at all conclusive on this subject.

Largely on the basis of Lovaas's research and anecdotal accounts, discrete trial teaching "is being promoted not only as an alternative but as the alternative" (Gresham & McMillan, 1998, p. 11) for teaching children with autism spectrum disorders. This despite the fact that there have been no comparison studies regarding the efficacy of discrete trial teaching versus any of the various other approaches for teaching children

with ASD. The promotion of discrete trial over all other techniques, in the absence of data, is counter to the premise of ABA. Applied behavior analysts would examine the data relative to an individual child and verbally mediate to solve a problem and determine the best tactic to follow to teach the necessary skills. Researchers in the field of ABA recognize "that a single, narrowly focused method, such as DTT, will be an unsatisfactory method for every student in every situation" (Simpson, 2001, p. 70). This is an important statement, but one that, in my opinion, is not regularly broadcast to potential users of discrete trial.

Current research does not more specifically identify characteristics of children with ASD that reliably predict their response to discrete trial teaching, though it is acknowledged that it is not appropriate for all children. Smith, Groen & Wynn phased out treatment for children from their study who were making "slow progress." Children were said to be making slow progress if they did not speak in short phrases, cooperate with verbal requests, play appropriately with toys, and acquire self-care skills (e.g. dressing and toileting) after 18 months of treatment. If EIBI was phased out, children were enrolled in their local school divisions' special education programs. Mary Ann Cassell and Soo Cho at the Center for Autism and Related Disorders, Inc. (CARD) in Northern Virginia, who provide discrete trial training noted that the families of children who are not showing signs of skill acquisition after 6 months, or who have rates of acquisition that have leveled off and do not seem to be responding to discrete trials are advised that the therapy might not be the correct avenue of teaching. CARD, Inc. does not have a set protocol for determining when this advice is warranted. Clearly, not all children with autism spectrum disorders can or should be taught using a strict discrete trial format. Determining which children are most likely to benefit from discrete trial teaching is imperative.

Discrete trial teaching does not work as well when it is offered haphazardly, utilized briefly, or conducted by individuals who have not received adequate training, mentoring, and experience (Cassell & Cho, 2004; Jacobson, Mulick, & Green, 1998; & Smith, Groen, & Wynn, 2000). Unfortunately, there are programs who purport to be providing ABA (by which they mean discrete trial training), but do not have the resources to support the best outcomes for students with ASD. Programs who typically report the best results for their clients with ASD provide intensive behavioral therapy for 40 hours per week, for most of the year (with the exception of family vacations). Highly successful programs are overseen by experts in the area of ABA with doctorates in the field of psychology. These experts advise onsite directors with many years of experience in providing discrete trial and generally at least a master's degree in psychology. The directors provide weekly oversight of therapists, evaluating the therapists' techniques, analyzing the data, and adjusting individual student programs. Therapists in programs that report the best results are trained (usually by the directors) for more than 18 hours prior to beginning to work with children under the director's guidance. Training is ongoing for all involved in such programs. Instruction is provided to therapists to ensure that students with ASD are learning and generalizing skills, increasing independence, and improving socialization. Continuous learning is imperative for the teacher as well as the student in programs that report best outcomes for students with ASD. Following general ABA theory, the focus is not on a deficit in the child, but on instructional techniques that will generate the best teaching and learning.

A concern that I, and others, have, particularly with discrete trial teaching is that many programs do not plan for and promote generalization of skills. Skills are learned under a certain stimulus condition that may not generalize to other situations. Criticisms of strict discrete trial training

include that children become cue dependent, do not learn to self-initiate behavior, respond in rote rather than natural manners. Generalization and maintenance is enhanced when parents, siblings, other family members, and sometimes peers are trained to provide instruction using the strategies proscribed in the program.

To the layperson the term Discrete Trial Teaching/Training has become erroneously synonymous with ABA; however, the use of discrete trials is only one of many ABA tactics. Herein lies one of my issues; people who are not trained in the full range of ABA often mistakenly believe that if a teacher is not solely instructing through discrete trials then she is not following ABA. In fact the opposite may be true. A teacher who understands ABA knows that discrete trials are not always the most appropriate method of teaching a child.

Conclusion

Good teachers, whether they know it or not, incorporate aspects of ABA into the instructional strategies they use when teaching children with ASD, or other disabilities. The first step of developing an ABA program for a child is to identify the child's present and desired behaviors in observable, measurable terms; every special educator knows that describing a child's present level of performance and generating observable and measurable goals and objectives is the nexus of a student's individualized education plan (IEP). Individualizing instruction is the backbone of special education, and is a hallmark of a well-designed ABA program. The best teachers use reinforcement such as praise, movement breaks, scheduling less favorite activities before more favored activities, and others; an applied behavior analyst would incorporate the use of more reinforcers. Collecting and analyzing data are imperative for every teacher to let him or her know how a child is accomplishing goals, and increasing skills; ABA programs require a very structured data collection system. No matter the means of data collection, a good teacher uses the data to determine areas of success, or need for a particular child. A key aspect of ABA—promoting generalization and maintenance of skills must be part of any special education program. Good teachers build on a student's prior knowledge, and assist students in learning more and more sophisticated skills. Much like in an ABA program, instruction on particular skills is phased out once a skill is acquired. These tools are good, basic educational strategies for all teachers.

Using similar strategies does not make one an applied behavioral analyst; nor does the lack of following the science make one a poor teacher. However, if a teacher or program is presented as an applied behavioral analyst, he or she should correctly implement the program with appropriate guidance and support, and stay current on all of the related research. Research is needed to determine common characteristics of children with an autism spectrum disorder that respond to different educational strategies. Individualization should allow educational teams to maximize treatment gains for all children with autism spectrum disorders. Developing individual teaching plans for children is imperative. Realizing that there is not a one-size fits all strategy for teaching children with autism is necessary if we are to help them all achieve the best outcomes.

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About the Author:
Leslie Daniel, Severe Disabilities Lead Coordinator for the Training and Technical Assistance Center at Virginia Tech, has worked with people with disabilities for over 20 years. For the last 9 years she has focused on learning more about autism and strategies to help students with autism spectrum disorders in their schools and communities. Currently Leslie has taken a leave of absence to work on her doctorial program at Virginia Tech.

Regions 1 & 8 T/TAC at VCU
Sue Palko palkosm@vcu.edu
Linda Oggel lsoggel@vcu.edu

Regions 2 & 3 T/TAC at ODU
Jennifer Mitchell jmitchell@ttac.odu.edu

Region 4 T/TAC at GMU
Karen Berlin kberlin@gmu.edu
Kris Ganley kganley@gmu.edu

Region 5 T/TAC at JMU
Sally Chappel chappes1@jmu.edu
Dianne Koontz Lowman lowmandk@jmu.edu

Regions 6 & 7 T/TAC at VT
Lora Kingma lkingma@vt.edu
Diann Eaton dweaton@vt.edu

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