

Applied Behavior Analysis in Public Education

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REH 480

October 8, 2017

**Abstract**

Applied behavior analysis (ABA) is the most common treatment modality for individuals with Autism Spectrum Disorder (ASD). Although typically utilized by certified behavior analysts, the program has been implemented in part in public education. The purpose of this paper is to explore the proven effectiveness ABA has for those with ASD as well as the limitations the treatment presents within the public education system. For the purpose of this paper, the terms Autism Spectrum Disorder and autism will be used interchangeably.

## **Introduction**

Applied behavior analysis can be viewed as a product of B.F. Skinner's ideas of the science of human behavior. From its initial introduction, it has been used primarily for addressing the needs and treatment of individuals with developmental disabilities (Axelrod, McElrath, and Wine, 2012). Given this, it becomes quite evident why the field of ABA has become widely recognized by teachers and clinicians alike as the most common treatment for autism (Ross, 2007).

Due to the recognition in the field, there is no surprise ABA has migrated into the public education system. However, as the approach ventures away from the historical clinical setting, there comes factors that affect its fidelity. Although applied behavior analysis is viewed as the treatment of choice for individuals with Autism Spectrum Disorder, there are significant limitations to its approach within public schools and its educators. This paper will explore specific interventions, issues of inadequate training for teachers as well as their behaviors toward the treatment modality.

## **Applied Behavior Analysis and Autism**

As stated previously, it is quite clear that ABA is the most recognized and used treatment for those with autism. Autism Spectrum Disorder is classified as a developmental disability in the Diagnostic and Statistical Manual. To put this diagnosis into perspective, there has been a dramatic increase in the last decade of students identified with autism in the United States (Steege, Mace, Perry, Longenecker, 2007).

Taking a closer look into the connection between this treatment and ASD, research was done to evaluate just how much the field focused their efforts on autism and developmental disorders alike. According to one study, 61.8% of articles published in the Journal of Applied Behavior Analysis (JABA) included individuals with developmental disabilities between 2000 and 2004 (O'Donohue, Fryling, 2007). There is a clear investment in this diagnosis specifically. In general, ABA programming is administered by Board Certified Applied Behavior Analysts (BCBA), one study found that these professionals reported that 80% of their work was specifically with children with autism (Axelrod, McElrath, Wine, 2012). This further emphasizes the narrow focus of the treatment within the field.

Given this clear connection between ABA and autism, the conclusion can be made that it is effective in it's treatment of behaviors associated with the disability. One reason in part for the treatment's effectiveness for ASD could be the interventions used. These methods used to support individuals with autism range from learning new skills, reinforcing learned skills, and reducing interfering behaviors (Steege, Mace, Perry, Longenecker, 2007). Although these interventions are used, they are highly individualized based off of student's behavior support plans (BSP's), which support learning initiatives such as communication training (Steege, Mace, Perry, Longenecker, 2007).

### **ABA in Public Education**

Reiterating from the previous sentiments, applied behavior analysis has proven to be a common and effective treatment for those with autism. But where does the treatment modality fall within the public education sphere? Not surprisingly, it's approach goes beyond the clinical setting. A federally sponsored assessment, Project Follow Through, of nine educational

approaches on the educational and affective development of students, proved significant growth in only two approaches. These two were based on the principles of ABA (Skinner & Hales, 1992). This not only backs the claim of a proven effective behavioral treatment but also proves validity and relevancy in public schools. This program can be viewed as a necessity within schools as it facilitates more effective, comprehensive curriculum of those individuals in the special education classrooms, which is required by those diagnosed with ASD, which constitutes multiple learning deficits (Leaf, et al., 2015).

As stated before, ABA in public education makes an obvious break from the clinical setting. However, this should not be viewed as a total limitation to the treatment and effectiveness within programming of those with ASD. Based on findings from one UK school, children with ASD can make significant progress in lower intensity, school based ABA programs (Foran, et al., 2015). Public education is a great arena for ABA to connect with those students with developmental disabilities, more specifically, autism.

### **Interventions**

Applied behavior analysis is comprised of multiple interventions that work together to form a comprehensive treatment modality. With credit to the Individuals with Disabilities Education Improvement Act of 2004, provisions for positive behavior interventions and supports are insured (Tincani, 2007). Specific interventions are not rigid in theory and it is up to therapists to make appropriate assessments. Quality intervention occurs when therapists are well educated and can implement a variety of procedures (leaf, et al., 2015). Common and practical interventions within public school settings are explored below.

## **DTT**

One of the most common interventions that comes up through research in applied behavior analysis is Discrete Trial Training (DTT). DTT is a teaching method where skills are broken down into small targets and taught gradually (Foran, et al., 2015). With the growing number of children with developmental disabilities, there has been an outreach for public education to find suitable interventions. Many special education programs represent themselves as ABA programs but are actually limited in their interventions to DTT exclusively (Steege, Mace, Perry, Longenecker, 2007). This is problematic in the sense that one intervention cannot act as the treatment modality as a whole, but rather must work in conjunction. While the teaching strategies are effective, educators strictly focused on DTT teaching and its principles have the opportunity to miss out on important teaching moments. The “rules” of DTT should be guidelines based on in the moment assessments of factors and variables relating to behavior (Leaf, et al., 2015). This insinuates that while teaching methods are straightforward, they do not account for the “must have” flexibility and awareness that comes with accurate education on ABA as a holistic approach. Disadvantages of DTT can be neutralized by using the teaching method in conjunction with other ABA interventions that teach and promote generalization of behaviors (Steege, Mace, Perry, Longenecker, 2007). It is important to understand that one specific intervention method is not equal to the comprehensive approach that ABA stems from. Methods such as DTT must work in collaboration with others, depending on individualistic needs of the student.

## **PBS**

Another intervention is Positive Behavior Support (PBS) which is its own approach that has been directly evolved from ABA, with the application of its main principles (Tincani, 2007). Going back to the provisions of the Disabilities Education Improvement Act of 2004, it is clear why this intervention is seen widely throughout public education. With its approach aimed at children with disabilities who display problem behavior (Tincani, 2007), the parallels of ABA are clear. So how can this “new” approach be viewed as a separate entity from ABA applications? The answer stems from the perspective of the common educator rather than the clinical behavior analyst. Tincani (2007) states “PBS provides a framework for those who lack technical training to conduct effective interventions.” This in theory can allow PBS to be seen as the “user friendly” version of applied behavior analysis. Special education classrooms, as well as mainstream classrooms, can implement aspects of ABA without the necessary “expert training” qualification. It can also be noted that PBS is in great position to be in collaboration with ABA principles. With prevention strategies in school wide PBS, it is an excellent complement to ABA which tends to focus on reducing problem behavior in students and underscoring prevention (Tincani, 2007). Although limited in its fidelity to ABA programming, PBS interventions should not be overlooked due to its basic approach and “marketable” intervention strategies.

## **Educator Behavior**

While ABA has the reputation of an effective treatment for ASD, in some cases it can be hard to “market” to teachers and special educators in the public schools due to lack of understanding and overall interactions with students.

An important aspect to understanding and implementing ABA is the notion of how the teacher is perceiving the student's behavior in the classroom. As Ross (2007) states, "maladaptive behavior is not functional." Educators who view this behavior under factors such as psychological or developmental, will not have an accurate understanding of how ABA can work to effectively reduce and reinforce positive behaviors within the classroom. Perceiving these behaviors as mainly behavioral, allows for the educator to see how progress can be made (Skinner, Hales, 1992). It is clear that educators must shift their perspective on behaviors to adequately use this method.

In addition, educators must be willing to be flexible and work in collaboration when it comes to properly implementing ABA. It is not feasible to expect all special educators to be expertly trained on ABA methods. It is important for the fidelity of the program that consultants are made available for programming. In order to get ABA approaches more widely used in public education classrooms, consultants should make educators feel free to make adaptations to ABA methods to fit their teaching styles (Skinner, Hales, 1992). As mentioned previously, there is potential for less rigid instructional approaches to become more individualized, especially in terms of student needs. According to one study, one aspect that was found most appealing about ABA was the opportunity and ability to adjust programming depending on student's specific needs (McPhilemy, Dillenburger, 2013). With training and willingness to be flexible, educators as well as consultants, have the capacity to make ABA effective in public education classrooms.

One significant aspect of public education that should be addressed is the interactions between teachers, students, and peers. For students with ASD, there is the possibility of limited opportunities for socialization. When peers with normal development accept students with



special needs, opportunities for emotional, social and academic development result (Avcioglu, 2017). Based on student's needs and goals, these opportunities could be crucial to developing and reinforcing positive behavior in the natural environment. Not only is social interaction crucial, but student interaction with the educator. Interactions and communication styles between teachers and students have quite a significant role within the classroom environment (Avcioglu, 2017). By understanding how maladaptive behaviors might arise from certain communication styles, teachers can adapt accordingly to better fit their ABA approach. Teachers should be aware of making adaptations to the classroom that are considerate of student's individual differences (Avcioglu, 2017). Educators should be willing and flexible within their classroom activities to be individualistic in nature.

### **Implications**

The most significant limitation of applying ABA into the public school system is the lack of training that special educators receive on the approach. As stated previously, in "normal" clinical settings, ABA programming is "performed" by board certified behavioral analysts. In public education, there may be only one BCBA as a limited consultant with the special education instruction fully administering the programs. Protocol driven instruction and limited interventions might be easy to train, but it limits some students with ASD from making the most progress (Leaf, et al., 2015). An important aspect of ABA is the "analysis" portion, critically evaluating data, that may be lost without proper training and skill developing (Leaf, et al., 2015). It is important to the fidelity of the treatment modality that ABA remains comprehensive with all aspects being met. It requires intensive training to be able to implement a variety of behavioral analysis procedures, assess progress, and be able to appropriately modify

interventions (Leaf, et al., 2015). In order to adhere to an effective treatment approach, public education must put an emphasis on training educators in a more intensive, comprehensive way.

### **Conclusion**

Applied behavior analysis is a common and effective treatment approach for students diagnosed with autism spectrum disorder. Though its basis is in clinical settings, there is a push for the use of ABA in public education. Although specific interventions are effective and easy to apply in classroom settings, the shift from clinical to public modality comes with limitations to a comprehensive approach. With issues of insufficient training and lack of ability to individualize interventions, ABA's effectiveness could be hindered within the public education system.

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