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Foreword

fter 30 years in public education, I have seen firsthand the complexity and challenge of making critical decisions in the face of rapid changes, and unforeseen circumstances. And how these decisions impact the lives of educators, families, and students. Across the country, schools are grappling with the ongoing effects of the pandemic on students. Learning loss is, with good reason, dominating headlines: one recent study from McKinsey¹ found that students on average were five months behind in mathematics and four months behind in reading by the end of the 2020-21 school year.

But educators know that academic performance represents just one dimension of the recovery challenge. Because over the last year, students have struggled with not just academic issues, but the process of adjusting to being back in classrooms and interacting with peers and teachers. Additionally, the pandemic exacerbated longstanding challenges in providing students the behavioral and mental health services they need.

The result is unprecedented behavioral problems in schools and headlines such as the following from *The Washington Post*: "Back to school has brought guns, fighting and acting out." The scale of these behavioral issues necessitates innovative approaches to getting resources to the students with the most need. From my first job as a schoolteacher in Junction City, Kansas, and later serving as a principal for elementary, middle and high schools, I learned that student well-being requires intentional and specialized support.

Given this rise in behavioral and classroom management challenges, school districts are looking for more effective ways to help students and teachers address these issues. One opportunity for schools is to rethink the way board certified behavior analysts (BCBAs) are deployed in schools. A BCBA focuses on how student behaviors change, how they're affected by the environment, and how they impact the ways learning takes place.

¹ https://www.mckinsey.com/industries/education/our-insights/covid-19-and-education-the-lingering-effects-of-unfinished-learning

Traditionally, BCBAs support students with a range of cognitive disorders and development delays including autism spectrum disorder (ASD), but their expertise in modifying maladaptive behaviors is relevant for all students today. School districts from Philadelphia to Polk County, Florida, have embraced a more expansive role for BCBAs in helping general population students thrive, and their teachers tackle behavioral and classroom management issues.

Central to the success of BCBAs is their training in applied behavior analysis (ABA) and delivering intervention strategies tailored to each child's needs. To explore the value in expanding the role of a BCBA or hiring them, school districts need to be familiar with ABA and its core concepts.

Invo Healthcare has created this glossary to provide a timely and easy to scan guide to ABA and 22 foundational terms frequently used in the field. Far from exhaustive, it is intended as a primer to support leaders as they consider strategies to best support their students and teachers at this time of transition from the pandemic. As someone steeped in the field, I found it to be a helpful resource and refresher, and I hope that it can be a useful resource for my peers and colleagues.

A former classroom teacher, Dwight Jones is among a small handful of education leaders who have led both a school district and state agency. He previously served as the Colorado Commissioner of Education, Superintendent of Clark County School District, Nevada, and most recently, Interim Superintendent of Denver Public Schools. Dwight is now a Senior Advisor to Whiteboard Advisors.

Introduction

here's a national emergency in child and adolescent mental health, according to the American Academy of Child and Adolescent Psychiatry,² and it's never been greater or more urgent. From bullying to truancy to anxiety, educators are grappling with how to effectively address longstanding student behavior and mental health issues that have been exacerbated by the COVID-19 pandemic. Fallout from gaps in access to early childhood education is having an unprecedented impact in the early grades, where educators are grappling with a spike in behavioral issues and their impact on classroom management.

Against that backdrop, a growing number of schools and districts are turning to applied behavior analysis (ABA) to deliver behavioral interventions that can help to improve a child's social, communication, and learning skills. Best known as a strategy to support learners with autism spectrum disorder (ASD), districts are finding that ABA can be effective for children with a far broader range of developmental, emotional and behavioral challenges.

Board certified behavior analysts (BCBAs), trained to conduct behavioral assessments, interpret results, and design and supervise ABA interventions are in-demand — and in short supply. And despite growing adoption and awareness, gen ed teachers and district leaders are often unfamiliar with the terminology and practices of ABA.

In an effort to leverage ABA strategies to help all student populations thrive, it's critical for school district leaders to have a clear understanding of what ABA is, who provides it, and its potential to support all students academically, socially and behaviorally. The following glossary is designed to give administrators and educators the fundamental terms and definitions essential to understanding ABA. Our intent is to provide timely information as districts explore ways to implement ABA strategies to support their students in this time of unparalleled need.

² https://www.aacap.org/App_Themes/AACAP/Docs/press/Declaration_National_Crisis_Oct-2021.pdf

What is ABA?

BA is a science based on the use of learning principles to improve lives. The practice of ABA focuses on assessing the environmental influences on behavior, assessmentbased intervention, and data-based decision making. ABA has been used to address the behavioral needs of consumers in multiple areas, including general and special education. ABA is best known as being the leading evidence-based treatment approach for autism and other developmental disabilities. The Behavior Analyst Certification Board provides in-depth information on ABA.3

Therapists use ABA therapy to:

- Understand a child's behavior.
- Determine how a child's decisions are influenced by the environment.
- Help a child learn how to replace harmful behaviors with appropriate and functional behaviors.
- · Teach social, communication, and other functional skills essential for ongoing progress towards independence.

³ https://www.bacb.com/about-behavior-analysis/

GLOSSARY

Board Certified Behavior Analyst (BCBA): Graduate-level certification in behavior analysis. Professionals certified at the BCBA level are independent practitioners qualified to provide behavior-analytic services, per the Behavior Analyst Certification Board (BACB). BCBAs may supervise the work of board certified associate behavior analysts (BCaBAs) and registered behavior technicians (RBTs), and other professionals who implement behavior-analytic interventions.

Why it matters: Those who hold a BCBA certification have extensive training, both in graduate school setting and applied field work, in the science and application of behavior analysis. They are well-versed in evidence-based treatments in ABA, means of evaluating treatment fidelity and reliability, data collection systems, as well as effectives means of training and supervision. It is important when considering professionals to develop, evaluate, and administer ABA services that they are certified as BCBAs when seeking high quality effective treatment.

2 Board Certified Behavior Analyst (BCBA-D): a person who holds a doctoral degree and is board certified holds the BCBA-D designation, per the Behavior Analyst Certification Board.

Why it matters: Those who hold a BCBA-D are typically more well-versed in research and have conducted research themselves. BCBA-Ds also have more extensive training and experience in their specified area of interest. They are typically more well-versed in the published research and can be good resources for learning and understanding research findings

Registered Behavior Technician (RBT): holds a paraprofessional certification in behavior analysis. The RBT certification is a credential that denotes the person has met specific education and experience standards, has gone through an extensive training program in ABA, and passed a rigorous exam. RBTs typically implement a treatment plan designed by a BCaBA, BCBA, or BCBA-D.

Why it matters: Having the RBT credential means the individual has had extensive training and testing in the principles of ABA and application of ABA skills and strategies. When looking for an ABA provider that provides 1:1 support, you can be more assured that the individual demonstrates a higher level of skills and knowledge in ABA if they have the RBT certification.

Behavior: anything a living organism does, observable to others, or to the individual engaging in the behavior, such as overt behaviors (e.g., talking out loud, walking, jumping), and covertly (e.g., thoughts, feelings, emotions).

Why it matters: When targeting behavior(s) for intervention, it is important to identify such behaviors in measurable, observable terms so that it is clear what exactly is being targeted for intervention, and all members of the team can respond to them accordingly. When not describing behaviors in observable measurable terms, or using a "mentalistic" description (i.e., that can not be observed or measured), sets the occasion for inconsistency between interventionists as well as non reliable data on the behaviors.

Target Behavior: the behavior(s) that a treatment program is intended to either increase or decrease, defined in observable and measurable terms.

Why it matters: so that all members of the behavior team (e.g., school team, home team, parents, guardian, etc.) are in alignment on what exactly is being targeted and how to respond accordingly. It is also important to identify and define target behaviors in order to reliably collect data and assess progress of the intervention plan.

Verbal Behavior: Behavior whose reinforcement is mediated by a listener; includes both vocal-verbal behavior (e.g., saying "cookie, please" to get a cookie) and nonvocalverbal behavior (pointing to a cookie to get a cookie). Verbal behavior includes subject matters typically treated as language and topics such as thinking, grammar, composition, and understanding.

Why it matters: B.F. Skinner defined verbal behavior (1957) in this way so as to understand the influence of the listener on the speaker and speaker on listener, and thus better intervene (i.e., alter contingencies) to increase language acquisition. Since Skinner's definition of verbal behavior was published, hundreds of research studies have been published validating his theory and extending his basic research from the lab to applied settings. For over 60 years, research on verbal behavior has been a fundamental foundation for ABA assessment and treatment of language acquisition programs for individuals with intellectual disabilities.

Stereotypic/Repetitive behaviors: often referred to as "Stimming" or "Stims." These are self-initiated, often repetitive movements that can be vocal or motoric. Examples include rocking, vocalizations, flapping, spinning, finger-flicking, and/or manipulation of inanimate objects.

Why it matters: Demonstrating stereotypic/repetitive behaviors is characteristic of individuals with autism and can oftentimes, without appropriate intervention, impede or get in the way of (i.e., distract from) learning. Like any behavior outlined in a student's behavior intervention plan (BIP), it is important to know exactly what the behaviors targeted for intervention look like so you know exactly when and how to intervene as well as how to reliably collect data on the behavior(s). Stereotypic/repetitive behaviors are often maintained by sensory automatic reinforcement (i.e., the action of engaging in the behavior alone is reinforcing), thus can be the most difficult behaviors to decrease or cease especially if there is a long history of the individual engaging in such behaviors. It is important to identify such behaviors as early on as possible and begin intervention as soon as possible so that it does not increase or become too difficult to stop. Common strategies for such behaviors include teaching the individual to engage in the behavior(s) only during specified, more appropriate times and in more appropriate settings, and/or giving access to a functionally equivalent (i.e., generates the same or similar sensory-seeking stimulation) and age-appropriate fidget item.

Functional Behavior Assessment (FBA): The investigative process by which behavior interventions are developed, by determining the function (or reason) why a behavior occurs, understand the context in which a behavior occurs, and determining goals towards socially significant changes the behavior change process may result in.

Why it matters: It is incredibly important to get to the root of and understand why behaviors occur in order to design effective and ethical interventions for long term progress. Without conducting a thorough FBA prior to designing and implementing behavior strategies can be unethical, ineffective, and/or only result in short-term changes (i.e., a "band-aid" approach). Also, by identifying the functions (i.e., why behaviors occur) of behaviors desired to decrease, allows for the interventionist to determine and teach more appropriate behaviors in place of the unwanted behaviors that result in the same function. For a student who calls out excessively in class for attention, teaching him to raise his hand will be called on and praised for doing so (i.e., form of attention). For BIPs (defined below) to have good outcomes, it is very important to have an accurate FBA and understand what is maintaining the behavior of concern.

9 A Behavior Intervention Plan (BIP): The treatment plan created for a student based on the outcome of the FBA. The FBA identifies what is maintaining or causing challenging behavior, and the BIP specifies, step-by-step, the actions to take to improve or replace the behavior.

Why it matters: BIPs are developed for any child having difficulty with behavior. They are intended to support children who have behaviors interfering with learning. It is important for anyone working with a student who has a BIP to be aware of strategies outlined in the BIP and are able to implement them to fidelity. This is crucial for ethical and safe implementation of effective strategies to assist and support the student in achieving their goals.

Functional Communication Training (FCT): An antecedent intervention in which an appropriate communicative behavior is taught as a replacement behavior for problem behavior and involves differential reinforcement of alternative behavior (DRA). In other words, teaching the child to obtain the same outcomes in the same contexts with another, more effective, safer appropriate behavior.

Why it matters: When a child/student demonstrates problem behavior (e.g., screaming, throwing items, aggressing, self-injurious behavior (SIB) to obtain items, attention, removal of something, they will continue to demonstrate those behaviors and potentially get worse unless taught to demonstrate functionally equivalent appropriate behaviors (e.g., using words to request the item/activity, requesting a break, asking someone to play or interact with them) to replace them. It is important to teach these more appropriate behaviors so that the learner is able to get their needs and wants met more effectively and without harming others as well as teach them how to adapt to their environment independently.

Reinforcement: a change in the environment, contingent on a behavior, that increases the probability of a behavior occurring again in the future.

Why it matters: Crucial to education or any instructional or support program is that new behaviors, skills, and knowledge are learned. Reinforcement is the process by which learning occurs. New skills and/or knowledge do not occur without reinforcement.

Positive Reinforcement: is anything added that increases a targeted behavior. What is reinforcing will differ with every child and should be reviewed frequently throughout treatment.

Why it matters: When considering strategies or interventions programmed to increase desired skills or behaviors, positive reinforcement strategies are the most common, easily administered and ethical means of doing so.

13 Negative Reinforcement: is the removal of an unwanted item/stimulus contingent on behavior. Removal increases the likelihood of a targeted behavior occurring again in the future.

Why it matters: taking away an unwanted item or stimulus in a child's environment encourages positive behaviors. Negative reinforcement is like positive reinforcement used to increase the probability of a targeted behavior.

Antecedent: what happens before a behavior.

Why it matters: It is important to understand the environmental conditions prior to behaviors occurring to better understand the "triggers" and thus alter the environment and better ensure effective intervention to change the behavior(s) targeted.

15 **Prompt:** a stimulus, or environmental cue, such as a "hint" or "reminder," designed to set the occasion for a desired response. Prompts may be physical, gestural, verbal, modeled, visual, symbolic, auditory, or textual. Prompts are usually faded before the ultimate objective is achieved.

Why it matters: Prompting is important because it assists in the learning process. When learning a new skill or response that is not demonstrated frequently, prompts help in teaching the learner how and when to respond and/or how to accurately demonstrate the target skill.

Mand: comes from the root word, "demand". It is a response that is evoked by a motivating operation and followed by specific reinforcement. Manding allows a speaker to get what he/she wants or refuse what he/she does not want.

Why it matters: Manding is the first form of communication a person demonstrates. It is demonstrated as early as infancy and is foundational for the development of language. The mand is particularly important as it gives us the ability to request and get needs met as well as establishing basic communication with others.

Tact: is being able to label or describe an item with stimuli being present. Tacting involves a response that is evoked by a nonverbal stimulus and followed by generalized conditioned reinforcement.

Why it matters: Like manding, tacting is one of the basic and foundational forms of communication and is essential for further language development. Having a sufficient tact repertoire is important in being able to have a conversation with others, describing and remembering items and events within one's environment, learning about new items and stimuli, and other important functional language skills.

Pairing: is the process of conditioning a stimulus (i.e., person, item, activity, etc.) to take on the properties (whether reinforcing or punitive) of another stimulus

Why it matters: Pairing is often used to build rapport with students by "pairing" oneself with the student's favorite toy, activity, or other highly desired items or events. It is also important to note that pairing can also result in a person, item, event, etc. (i.e., stimulus) to take on aversive properties, thus resulting in fear or anxiety. When/if this happens, it is important to reassess and re-pair with positive preferred items and activities.

19 **Punishment:** a change in the environment, contingent on a behavior, that decreases the probability of a behavior occurring again in the future.

Why it matters: Like reinforcement, punishment is also essential to learning (specifically what NOT to do) and teaching individuals to adapt to their environment. Police officers give out tickets to decrease speeding, a student may be asked to sit out of a game after pushing another student and as a result does not push others when returning to the game. In both cases, the consequence contingent on the behavior (getting a ticket, time out) decreased the likelihood the behaviors would re-occur, and thus ensured the safety of others. It is important to note that the word "punishment" is not inherently "bad", it is just a description of how behavior changes. Also important to note, punishment is and should only be used when multiple reinforcement strategies alone have not been effective. When punishment is used in education or clinical setting, it should always be in combination with reinforcement for more appropriate behaviors.

Elopement: wandering or running away, either alone or without caregiver knowledge.

Why it matters: it is important to be aware if a student you are working with has a history of elopement and the strategies outlined in the BIP appropriately and safely intervene. Elopement can be very dangerous and harmful in situations where a student removes himself from adult supervision and can possibly result in harm to the student and/or others. Like any behavior outlined in a student's BIP, it is important to know exactly what the behaviors targeted for intervention look like so you know exactly when and how to intervene as well as how to reliably collect data on the behavior(s).

Generalization: describes the ability to demonstrate a new skill in one situation and the student then is able to apply it flexibly to other similar but different situations.

Why it matters: Generalization is incredibly important because it's when a learner begins to demonstrate learning on their own. Because it is not feasible nor possible to teach every response and skill in all situations, it is important to have a generalized repertoire so that the learner continues to demonstrate skills on their own without relying on an instructor to teach every single response. If a student does not demonstrate generalization readily, it is important for the BCBA and therapist to program for generalization.

Extinction: discontinuing reinforcement of a previously reinforced behavior, which decreases the frequency of the behavior or ultimately ceases to occur. Importantly, the reinforcer is not removed when an unwanted behavior occurs, it is withheld, nothing happens.

Why it matters: It is important to understand WHY a behavior occurs (i.e., function) in order to make it stop occurring. Using extinction rather than continuous reprimand or other forms of generic consequences, ensures the behavior will lessen or stop long term rather than a "band-aid approach."

About Invo Healthcare

Invo Healthcare is the nation's largest and most comprehensive provider of behavior, mental health and therapy services for children. Invo's services span schools, homes and centers, with a keen focus on driving and measuring outcomes for the children served. With several decades of expertise in school-based services, Invo partners with hundreds of districts, providing programmatic, effective solutions to some of the greatest behavioral and mental health challenges schools are currently facing. Beyond autism, Applied Behavior Analysis (ABA) is being used by some school districts to support children with behavioral challenges stemming from emotional trauma, as well as other diagnoses. Invo's extensive experience in evidence-based ABA services has allowed us to develop and deliver programs and trainings to support both students and schools staff in leveraging ABA beyond the spectrum.

About Whiteboard Advisors

Whiteboard Advisors is a mission-driven communications, research, and consulting firm that supports organizations working to advance educational equity and economic mobility. Our clients include the nation's most respected and impactful philanthropies, companies, nonprofit organizations, and investors. Our work is truly multidisciplinary, sitting at the intersection of business, policy, practice, and the media.