MERGING THE SILOS TO SUPPORT STUDENTS: EDUCATION LEADERSHIP, SPECIAL EDUCATION, AND APPLIED BEHAVIOR ANALYSIS

by

Jared L. Stanley
A Dissertation
Submitted to the
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of
Doctor of Philosophy
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Committee:

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                                                 George Mason University
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Dedication

With gratitude, I dedicate this paper to my loving and supportive parents. I am very thankful for their perseverance and dedication to provide me with opportunities that got me to this point, despite the more difficult and challenging moments I may have caused along the way. I am very appreciative of their endless love and encouragement to this day.

In addition, I dedicate this paper to my loving partner, Adam. Throughout the course of both my masters and doctoral program, he has provided unwavering support to help me accomplish my dreams. I am beyond grateful for his patience and selflessness as I poured myself into this research and I could not have completed it without him. It is my hope to use this experience as part of the foundation in which we continue to build our lives together.

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List of Abbreviations

Administrator on Special Assignment .... ASOA
Americans with Disabilities Act .... ADA
Applied Behavior Analysis .... ABA
Attention Deficit Hyperactive Disorder .... ADHD
Autism Spectrum Disorder .... ASD
Behavior Analyst Certification Board .... BACB
Behavior Intervention Plan .... BIP
Board Certified Assistant Behavior Analyst .... BCaBA
Board Certified Behavior Analyst .... BCBA
Continuing Education Units .... CEU
Council for Exceptional Children .... CEC
Disruptive Mood Dysregulation Disorder .... DMDD
Education of the Handicapped Act .... EHA
Education Support Professional .... ESP
Emotional and Behavioral Disabilities .... EBD
Exceptional Student Education .... ESE
Family Medical Leave Act .... FMLA
Fidelity of Implementation .... FOI
Free and Appropriate Public Education .... FAPE
Functional Behavior Assessment .... FBA
George Mason University .... GMU
Gulf Coast School District .... GSSD
Individuals with Disabilities Education Act .... IDEA
Individualized Education Plan .... IEP
Institutional Review Board .... IRB
Instructional Behavior Assistant .... IBA
Interobserver Agreement .... IOA
Least Restrictive Environment .... LRE
Licensed Mental Health Counselor .... LMHC
Local Education Agency .... LEA
Multiple Baseline Design .... MBD
Multi-Tiered Systems of Support .... MTSS
Organizational Behavior Management .... OBM
Positive Behavioral Interventions and Supports .... PBIS
Professional Learning Community .... PLC
Public Education Leadership Project .... PELP
Registered Behavior Technician .... RBT
Response to Intervention .... RTI
Specially Designed Instruction .... SDI
Students with Disabilities .... SWDs

Abstract

MERGING THE SILOS TO SUPPORT STUDENTS: EDUCATION LEADERSHIP, SPECIAL EDUCATION, AND APPLIED BEHAVIOR ANALYSIS

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George Mason University, 2022

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Numerous challenges, complexities, and considerations are associated with delivering Special Education supports and services. To meet the needs of students with disabilities (SWDs) in a school setting, a multidisciplinary team needs to work together closely. To create a functional foundation for collaboration, membership should include a special education teacher, school administrator, and behavior specialist. Unfortunately, these three professionals often neglect to collaborate or coordinate services, which creates an imbalance of support and power. In addition to these team members, behavior specialists or Board Certified Behavior Analysts (BCBAs) are typically utilized in school settings, working with students identified exhibiting emotional and behavioral disabilities (EBD) among other disabilities. Although the techniques employed by BCBAs traditionally are used to address student behaviors, they can also be utilized to enhance staff performance through organizational behavior management (OBM). Therefore, the purpose of this

study was to examine the implications of OBM techniques used by education leaders, behavior analysts, and special education teachers within the public-school context. The study utilized a multiple baseline design across participants, with a sample size of five education support professionals (ESPs) within a school for students with EBD. This study utilized an intervention package of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback to increase the percentage of positive praise delivered by ESPs to students. Additionally, this research explored if using applied behavior analysis (ABA) to modify staff behaviors indicated a relationship with student performance and perceptions from participants on this approach to increasing performance.

Chapter One: Introduction

All too often, special education teachers and students with disabilities (SWDs) experience the inefficiencies of the education system (Brigham et al., 2016). In some cases, teachers do not have adequate training to take on the role of a special education teacher. The reality for classrooms without certified teachers and their students (and many other classes across the country) is that schools mid and post-the COVID-19 pandemic struggle to regain instructional momentum (Lieberman, 2021). Prior to the pandemic, special education supports and services were underfunded and understaffed (Dewey et al., 2017). In addition, school systems' human resource personnel consistently struggled to find appropriately trained and adequate staffing beyond just special education positions (Sutcher et al., 2016). According to the *EdWeek* Research Center Survey (2021), 48% of responding principals and district administrators reported having difficulty hiring full-time teachers for the 2021-2022 school year. Therefore, education leaders (e.g., Principals, Assistant Principals) were often left to fill vacancies with long-term substitutes or internal employees under temporary contracts, creating a need for professional support (Learning Policy Institute, 2017). Filling special education positions with those who are unqualified and unfamiliar with behavior management strategies combined with a lack of collaboration and support from education leaders could lead to numerous liability issues. Fortunately, there are opportunities to utilize Organizational

Behavior Management (OBM) to help mitigate some of these issues. OBM is the application of applied behavior analysis (ABA) in the workplace (Weatherly, 2021). ABA is the science of systematically applying principles to socially significant behavior and monitoring through data analysis to delineate if behavior change was caused due to specific techniques or confounding variables (Boutot & Hume, 2012). OBM is practiced by Board Certified Behavior Analysts (BCBAs; i.e., behavior analysts) who are certified in practicing applied behavior analysis (ABA; Luke et al., 2018). Hence, the collaboration between education leaders, special education teachers, and behavior analysts creates the perfect opportunity to employ OBM strategies on Education Support Staff (ESPs). Therefore, the next sections will include information on the roles of (a) education leaders, (b) special education teachers, and (c) behavior analysts.

Education Leaders

Education leaders hold a masters-level certification in educational leadership and are responsible for overseeing the planning, implementation, and assessment of educational services (Barakat et al., 2018; Döş & Savaş, 2015). Education leaders are public officials who are legally responsible for ensuring the delivery of educational services to students in the kindergarten-12th grade setting (Student Press Law Center, n.d.). Education leaders include a variety of positions (depending upon the school system) such as: superintendents, assistant superintendents, directors, program coordinators, principals, assistant principals, curriculum specialists and deans (Lynn University, n.d.).

Special Education Teachers

Special education teachers hold a minimum of a bachelors-level certification and in some states are required to be dually certified in special education and the content area in which they are teaching (e.g., reading, elementary education, early childhood education; Florida Department of Education, n.d.). Special education teachers are responsible for writing, implementing, and assessing IEPs for any SWDs in the K-12 system (Council for Exceptional Children, 2020). These teachers provide specially designed instruction (SDI) in a variety of settings such as general education classrooms, hybrid models (push-in and pull-out services), and self-contained special education classrooms (Riccomini et al., 2017).

Behavior Analysts

As previously noted, behavior analysts hold a certification in ABA and their practice and professional development is governed by the Behavior Analytic Certification Board (BACB; Dixon et al., 2016). These practitioners are responsible for the design, implementation, and assessment of behavior analytic services (Frederick et al., 2020). Specifically, within a school context, behavior analysts are typically utilized in a consultative role, assisting with skill acquisition and behavior intervention plans (BIPs; Fahmie et al., 2020; Oram et al., 2016).

Issues

Unfortunately, there are many ongoing issues within the context of special education (Bateman et al., 2015). Schools across the country report issues with compliance leading to lawsuits and compensatory services (Brady et al., 2019). Next,

there are problems with safety and student behavior management leading to disciplinary referrals (Girvan et al., 2021). Problems such as these may be due to a lack of supporting students and personnel. Therefore, the subsequent sections will discuss information regarding: (a) compliance with behavior-related laws and policies, (b) safety of students and staff, (c) behavior support as meeting students' needs, and (d) supporting the needs of special education teachers.

Compliance

Primarily, special education teachers are responsible for designing and implementing curricular components such as lesson plans and Individualized Education Programs (IEPs; Bureau of Labor Statistics, 2021). To execute these responsibilities, the Council for Exceptional Children's *Standards for Special Educators* (2020) outlines practices special education teachers must be proficient in:

- Engaging in professional learning and practice within ethical guidelines.
- Understanding and addressing each individual's developmental and learning needs.
- Demonstrating subject matter content and specialized curricular knowledge.
- Using assessments to understand the learner and the learning environment for data-based decision making.
- Supporting learning using effective instruction.
- Supporting social, emotional, and behavioral growth.
- Collaborating with team members.

While these standards outline the importance of understanding ethical practices and behavioral needs, novice special education teachers are often unequipped to handle extreme behaviors on their own (Granata, n.d.; National Council on Teacher Quality, n.d.). Thus, education leaders and behavior analysts need to collaboratively support the special education teachers (McKenney, 2020; Sharon & Sukkyung, 2017).

Safety

Beyond the legal obligations of a least restrictive environment placement (i.e., the environment in which a child receives their education; IDEA, 2004), inappropriately addressing student behaviors can cause escalated behaviors (Turner, 2019). For example, in most cases, educators fail to see that antecedent-based interventions aimed at preventing a behavior from occurring (e.g., providing a student positive reinforcement as an incentive such as telling a student what they can earn or reminding a student of a classroom expectation) could be used to mitigate problematic behaviors (Cooper et al., 2018). In these instances, a relatively minor problematic behavior such as calling out answers in class for attention may escalate to calling out answers and calling peers' names (e.g., stupid) to receive attention. When students engage in such escalated aggressive or destructive behaviors, staff unfamiliar with handling these issues may respond instinctively rather than appropriately (Vera, 2018). For example, when a student displays behavior that endangers themselves or others, a staff member might initiate a student transport to another space in the school or student restraint (Quality Behavior Solutions Incorporated, 2017). In these scenarios, parents may seek legal action against

school systems in response to unwarranted restraints or restraints conducted improperly, resulting in student injury (Katsiyannis et al., 2017).

In addition to improper use of restraints, student behavior crises (e.g., when a student is harming themselves or others) can also result in other difficult circumstances such as seclusion, student abuse, and staff injury. Seclusion is the practice of isolating a student in a space or a room alone and physically blocking them from leaving (e.g., locking them in a room; Abamu, 2019). Historically, this practice has been grossly overused and improperly utilized (Gage et al., 2020). For example, there are schools that have been identified for illegally secluding students for hours at a time without indicating to the student how to get out (Smith Richards et al., 2019). As a result, states have issued explicit guidance on when seclusion and restraint can be utilized, and some states have even banned the practice altogether (Seclusion and Restraint of Students with Disabilities in Public Schools § 1003.573, 2021). In states where staff cannot use seclusion, staff members are left to deescalate crisis behavior situations using other methods such as antecedent- and reinforcement-based interventions. In instances when personnel are unprepared and unsupported, personnel may get injured (e.g., punched, kicked, scratched, bit) or even battered with objects (e.g., laptops, furniture, loose objects; Bon et al., 2006). In circumstances that become significantly elevated, personnel may lose composure and defend themselves, potentially hurting a student by accident (Vera, 2018). Instead, educators should turn their focus to preventing these situations through antecedent-based interventions rather than solely reacting to them (Cooper et al., 2018; Farmer et al., 2014). Much like curriculum design, behavior management is another opportunity for

behavior analysts to collaborate with teachers in supporting the behavioral needs of students. Across the country, states have been changing laws, prohibiting the use of seclusion (Department of Education, n.d.). For example, the state of Florida banned the use of seclusion as recently as July 1, 2021 (Florida Statutes Title XLVIII Public K-12 Education § 1003.573). Considering the ongoing changes in seclusion law and continual issues regarding workplace safety, there is a lot to be learned in how to prevent extreme behaviors from the start using antecedent-based strategies (Elder, 2018; Landsbergis et al., 2018; Park & Scott, 2009). Furthermore, this creates an opportunity for behavior analysts, education leaders, and special education teachers to collaborate.

Supporting Students

According to Maslow's hierarchy of needs (see Figure 1), there are four tiers of "need" prior to the level in which students can achieve academically. These tiers include physiological needs (e.g., food, water, medicine, shelter, cleanliness), safety (physical and emotional), love and belonging (e.g., friendships, connections with staff), self-esteem (e.g., recognition, social status, respect), and finally self-actualization (McLeod, 2018; Vander Ark, 2018).
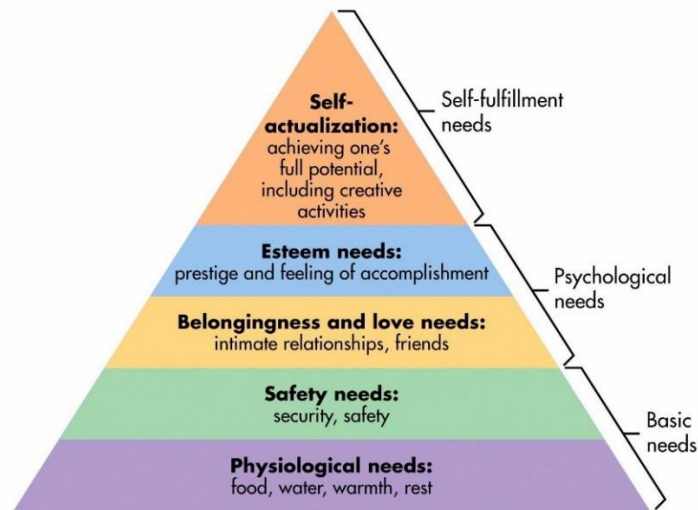
Note: From "Maslow's Hierarchy of Needs," by S. McLeod, 2018, Simply Psychology. (https://www.simplypsychology.org/simplypsychology.org-Maslows-Hierarchy-of-Needs.pdf). In the public domain.

Figure 1

Maslow's Hierarchy of Needs

For example, in a school setting, if a family experiences homelessness, it is often paired with increased levels of stress, difficulty finding the means to put food on the table, maintain healthy habits (e.g., sleeping, grooming, cleaning), and carrying out daily routines (e.g., getting to school on time; Bishop, 2021). Therefore, students of this family enter the school setting without their basic needs (i.e., physiological and safety needs) being met. It is unrealistic for special education teachers to support the psychological needs of students to reach self-fulfillment without a network of support to address the basic needs (U.S. Department of Education, 2021). Even still, once basic needs are adequately addressed, practitioners still require collaborative support (e.g., school personnel, families) in helping students feel a sense of belonging and love within a school

and build their self-esteem (The IRIS Center, 2015). While teachers have the most significant impact on students (Grissom et al., 2021), research implies that education leaders play an important role in creating a school climate that fosters a sense of belonging for all students (Pesonen, 2016). Thus, education leaders need to be cognizant of students' basic needs when making decisions, such as the issues caused by COVID-19. The COVID-19 pandemic caused hardship among families and elevated the importance of identifying hardship indicators accurately (Nickerson & Sulkowski, 2021). In many of these instances, schools can meet the needs of children during the school day (e.g., food, sleep, access to first-aid) or provide families with the proper channels to get support (e.g., wrap-around services, shelters, respite care). However, meeting all these needs comprehensively is not possible without collaboration across practitioners.

Supporting Teachers

As previously noted, special education teachers (let alone untrained or novice teachers) cannot address the needs of SWDs without support. Although special education teachers, education leaders, and behavior analysts need to work closely when the IEP is written, they often work in silos and miss opportunities for collaboration to meet the needs of students (Hartman, 2016). For example, when implementing an IEP for a student with autism spectrum disorder (ASD) who shows extremely aggressive behavior, a special education teacher may be attempting to balance the needs of the one with the many, an education leader may be advocating for a change in placement, and a behavior analyst might be attempting to mitigate the behavior. Instead, practitioners should strive

to collaboratively implement this student's IEP, which enhances a sense of support among special education teachers in their work (Hallam et al., 2015).

An examination of research of the responsibilities associated with each of these roles indicates there are areas in which each cross over with one another. For example, education leaders have worked to enhance program services implemented by the teachers by way of improving positive reinforcement provided by teachers to students (Wiskow et al., 2018). In addition, behavior analysts provide direct services (as opposed to a consultative role) to students with disabilities in multiple capacities (Shawler et al., 2021; Vietze & Esther Lax, 2020; Wang et al., 2021). However, there is little to no research in which all three stakeholders strategically collaborate with the same goal (e.g., improving the performance of an ESP). There are multiple opportunities in which behavior analysts could collaborate with education leaders and special education teachers to utilize applied behavior analysis (ABA) such as student skill acquisition, student behavior management, parent training, and staff performance management.

Empirically Based Interventions

ABA principles can be utilized within the workplace environment in a variety of ways (Chesser, 2021). Among OBM research, there are several interventions that have proven to be successful which include: (a) positive reinforcement, (b) token economy systems, and (c) visual feedback. Positive reinforcement is when practitioners provide a stimulus directly after a behavior in the hope of increasing future events of that behavior (e.g., using social praise to increase the percentage of opportunities employees ask customers to upsize an order; Ackerman, 2019). Token Economy Systems are a visual

representation of a reinforcement schedule which can be exchanged for something (e.g., an investment website providing a percentage of money in return for a certain number of investments; Soo Kim & Yong Chung, 2019). Visual Feedback is a support which provides the learner information to help them monitor their own performance (e.g., graphing their performance; Daniels & Bailey, 2014). Although these principles have been utilized across a variety of business settings (e.g., factories, clinical settings, finances), it requires a collaborative team is a prerequisite to ensure that they are implemented consistently and with fidelity (Ward & Page, n.d.).

Theoretical Framework

As outlined above, special education teachers, education leaders, nor behavior analysts cannot address all the needs of SWDs in isolation. Therefore, the theoretical framework of this research requires the collaboration and balancing of power between each of the three roles. The visual representation of this framework is that of a three-legged stool (see Figure 2). Each leg of the stool represents one of three key special education service roles: special education teachers, education leaders, and behavior analysts. Ideally, researchers recommend that schools should strive for the stool to be 'level,' through the distribution of leadership and contributions to meet common goals (Amels et al., 2020). For this to happen, each practitioner must recognize the importance of their role and their inability to address everything alone. For example, while a teacher may know the strengths and needs of a student better than anyone else, they do not have the power to allocate appropriate resources (e.g., providing additional staffing, purchasing specific accommodations, acquiring a new intervention) that the Local

Education Agency (LEA) administrators hold. Another example would be how a

behavior analyst may have developed a data-based intervention plan to increase socially

appropriate behavior, yet may not be aware the intervention is not culturally responsive to

the family's needs or classroom practices. Thus, if practitioners collaborate to meet these

needs, issues can be met comprehensively and thoughtfully.
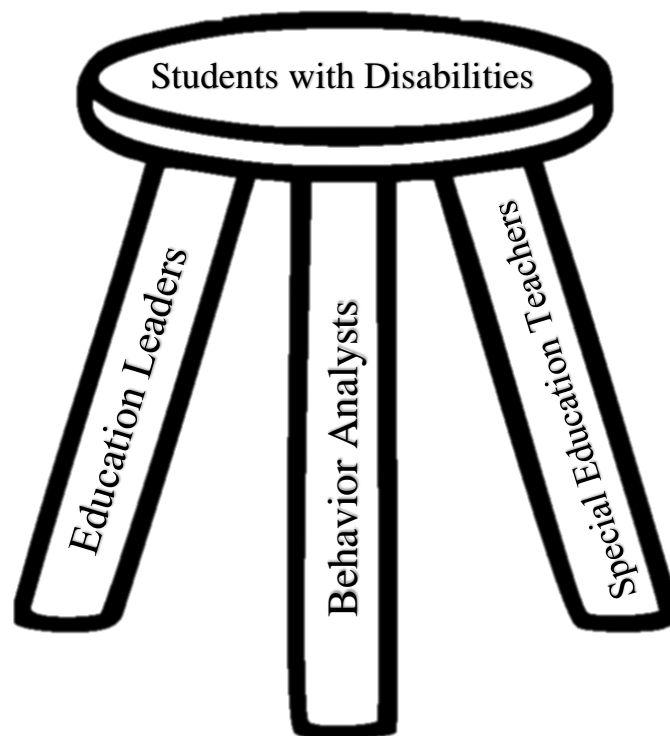
*Note: This figure is a visual representation of the idea that if education leaders, behavior
analysts, and special educators collaborate on a deeper level, students will be better
supported.*

Figure 2

Theoretical Framework

As this framework displays, each of the "legs" must contribute and collaborate equally for the stool to function in a meaningful and effective way. The idea behind this framework is that each practitioner contributes to the workload to support the students, rather than one stakeholder (e.g., teacher, instructional assistant, behavior technician) doing a predominant portion of the work. The paucity of research on the dynamics and collaborative efforts among these education practitioners disrupts the balance of the stool, thereby inefficiently, and potentially, unproductively meeting the needs of students.

Research Questions

As suggested, there is a need to explore further the overlaps and gaps in collaboration between behavior analysts, education leaders, and special education teachers. To better understand the potential for improvement, we begin to explore the uses of ABA beyond the work with persons with disabilities because it has been used effectively in other contexts (Brethower et al., 2021; Ezerins & Ludwig, 2021). In business settings, organizational behavior management (OBM) has been used to improve workers' performance. OBM is the use of ABA strategies and practices within the context of a business or organization (Andrasik, 1980). For example, OBM strategies have successfully been applied in manufacturing by embedding goal setting and feedback to increase productivity (Matey et al., 2021). These same practices could be applied in school settings to address behaviors such as the amount of praise or duration of instruction. Leveraging each practitioner's role in this process could have a more widespread impact, creating a sense of buy-in and comradery among personnel by using

ABA. However, very few studies exist on utilizing ABA strategies as a collaborative tool to improve school staff performance (Gravina et al., 2018). Therefore, this study will address the following questions:

1. Will the use of a behavior analytic intervention package delivered by education leaders, behavior analysts, and special education teachers that consists of: (a) positive reinforcement, (b) a token economy system, and (c) visual feedback, increase ESPs verbal praise?

2. Will the use of this intervention decrease student discipline referrals?

3. Do ESPs find this intervention package to be socially significant?

Definition of Terms

Although there is an overlap in terminology between the field of ABA and the field of education, it is essential to define the terminology used throughout this study to provide clarity. In this section, definitions include: (a) ABA, (b) behavior analysts, (c) education leaders, (d) Emotional and Behavioral Disorders, (e) organizational behavior management, (f) practitioners (g) students with disabilities, and (h) special education personnel. These definitions were written to match current literature as well as the organizational terminology in which the study was conducted.

Applied Behavior Analysis (ABA): the systematic, science-based approach based on observable and measurable behaviors which are modified through the manipulation of external variables (Cooper et al., 2020).

Behavior Analysts: professionals who possess a graduate-level certification in behavior analysis and are independent practitioners that provide behavior-analytic services. Those certified through the Behavior Analytic Certification Board (BACB) hold the title of a BCBA (BACB, 2021).

Education Leaders: individuals with responsibility as a school administrator and requiring a certification in education leadership including (but not limited to) positions such as assistant principals, principals, program specialists, directors, deans, assistant superintendents, deputy superintendents, and superintendents (National Center on Safe Supportive Learning Environments, 2021; National Policy Board for Educational Administration, 2015).

Education Support Professionals (ESP): all non-instructional personnel who are responsible for supporting the overall mission of a school. These positions include (but are not limited to) instructional behavior assistants, behavior technicians, clerks, secretaries, custodians, cafeteria workers, bus drivers, and health technicians (GSSD, n.d.). For the purpose of this study, the term ESP will reference classroom-based staff, which includes only instructional behavior assistants and behavior technicians.

Emotional and Behavioral Disorders (EBD): for the purpose of this study, the definition from the Individuals with Disabilities Act (IDEA; 2004) will be used. IDEA (2004) describe EBD as follows: " '…a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory

interpersonal relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; (e) a tendency to develop physical symptoms or fears associated with personal or school problems.' As defined by IDEA, emotional disturbance includes schizophrenia but does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance" (Council for Exceptional Children, 2020).

Organizational Behavior Management (OBM): the application of ABA practices within the context of a business or organization (i.e., a public school) to shape employee behaviors (e.g., increase production rates in factories, increase sales in stores, increase the cleanliness of restaurants; Ludwig, 2015).

Practitioners: any person who is actively engaged in a discipline or profession (Merriam-Webster, n.d.). For the purpose of this study, this may encompass any school-based personnel such as education leaders, behavior analysts, special education teachers, related service providers, social workers, and psychologists.

Students with Disabilities (SWDs): any student within the public K-12 school setting with an educationally diagnosed disability that adversely impacts their progress in the general education curriculum without supplementary supports and services (IDEA § 300.8, 2004).

Special Education Personnel: any employee whose position is primarily funded through federal IDEA funding to directly support students with disabilities through their individualized education plans. These staff members include positions such as

instructional assistants, instructional behavior assistants, behavior technicians, special

education teachers, related service providers (e.g., speech-language therapist,

occupational therapist, physical therapist), as well as specific specialists (e.g., eligibility

specialists).

Chapter Two: Literature Review

While school systems have a wealth of human resources at their disposal, education leaders, special education teachers, and behavior analysts can get into the habit of working in silos, focusing on their own roles rather than collaborating across a school (Hartman, 2016). To meet the need of students with disabilities (e.g., identifying root causes of behavior problems, identifying deficits in academic skills), many schools either hire or contract Board Certified Behavior Analysts to support teaching staff (BCBAs; ABA Degree Programs, n.d.).

BCBAs are certified to practice ABA. ABA is deeply rooted in an empiricist mindset, which can be explained as a science-based approach in which behaviors are systematically modified through the applied experimentation and manipulation of external variables (Cooper et al., 2020). For many, BCBAs are synonymous with work related to ASD. However, like OBM, ABA is applicable to many different populations and work settings (Roane et al., 2015). Schools are currently utilizing BCBAs to address unwanted student behaviors (e.g., tantrums, aggression, task avoidance; Oram et al., 2016). However, there are many ways in which their skillsets can be utilized such as providing professional development, designing skill acquisition programs, and providing parent consultation (Broadhead et al., 2018).

Behavior analysts are often found within schools working primarily with students with ASD or intellectual disabilities. However, ABA principles can be applied when working with other school populations such as general education students, English

language learners, and school personnel. Further, many administrators unknowingly use elements of ABA daily. For example, telling staff members that they can go home early on a teacher's workday after their work is finished is an example of the Premack Principle. This principle is an ABA-based intervention used to motivate an individual to participate in a non-preferred activity (Cooper et al., 2020). However, there are many missed opportunities to intentionally use this principle and other ABA interventions to motivate staff or collect data on staff performance. Thus, there are opportunities in which BCBAs could collaborate with administrators beyond special education programming. Considering the traditional scope of ABA principles, the use of a behavior analytic approach is consistent with the intent and prescription of special education law, the Individuals with Education Act (2004; Burns & Ysseldyke, 2008).

IDEA prescribes that a student's individual program of services requires a team effort. In addition to the parent, this team requires the involvement of a special education teacher, administrator, and sometimes a support specialist (such as a BCBA). Once formed, teams need to collaborate using their skillsets and knowledge to meet the needs of the students (Spainhour, n.d.). However, power dynamics and differences in professional training can impact the relationship between these three professional roles, often creating an imbalance power and collaboration; hindering the potential to optimize service delivery (Koch, 2017; Mueller, 2009).

This chapter the author investigates literature among the three roles to inform the collaborative use of OBM, a subdiscipline of ABA, in schools. First, the author provides an overview of education leadership and special education, as well as the predominant

barriers to collaboration in the field of education regarding special education. Second, the author reviews foundational content regarding ABA and barriers relative to expanding behavior analysis in school settings. Third, overlaps and gaps between education leaders, special education teachers, and behavior analysts are discussed. Finally, the need for more engaged collaboration between the three key professional roles and the implications for all stakeholders are discussed.

Overview of Public Education Roles

Special education is a unique specialty within the field of education. Even though special education services are delivered throughout various content areas (e.g., reading, mathematics, science), special education teachers report feeling ostracized from their general education counterparts (Ruppar et al., 2018). This could be due to a lack of collaboration, training, and support (Hagaman & Casey, 2018). The following section on education leaders includes: (a) a contextual background of administrators, (b) types of leadership, (c) roles and responsibilities, (d) decision-making models, (e) reflection, (f) the Public Education Leadership Project (PELP) framework, and (g) and barriers for administrators relative to special education. Topics (a) through (g) illustrate a broad context in which school administrators operate. Then, the subsequent special education section provides: (a) a background for special education, (b) information regarding processes and procedures, followed by (c) barriers faced by special educators. Taken together, information begins to hone in on the complexity of supervising special education programming.

Education Leaders

Expectations for administrators have grown exponentially over recent decades (Gross, 2004). Gone are the days when a Principal or Assistant Principal were considered a "good" administrator if they completed staff evaluations, worked at a school where students achieved high test scores and maintained low rates of student discipline. Instead, administrators regularly multitask between managerial tasks, mitigating student and staff crisis, influencing instruction, planning professional development (PD), aligning budgets with curriculum needs, and interpreting data, among other tasks (Ferlazzo, 2019). Not to mention, administrators often oversee multiple departments, each with its unique intricacies. For example, while similar, English Language Teachers and Special Education Teachers have different responsibilities and accountability measures (e.g., special education requires an annual IEP to be written whereas there are no specified federal requirements for English language services; National Clearinghouse for English Language Acquisition, n.d.). There are numerous differences associated with education leaders, special education teachers and behavior analysts; including differences in funding sources, laws, responsibilities, and accountability measures (McLaughlin, n.d.) Therefore, administrators must extend their knowledge, guidance, and support to include the fundamental aspects of each departmental role. Unfortunately, although administrators are required participants in IEP meetings for students with disabilities, research has repeatedly shown that administrators require special education training to better support staff effectively (Carney, 2019).

Types of Leadership. There are many forms of leadership, and, depending upon the circumstances, one approach to leadership may be more beneficial than another. Given the dynamic roles of school administration, the concept of formulating the perfect leadership style is impossible, yet research indicates some overlap in characteristics that lead to success. To begin, Goleman (2000) writes that emotional intelligence is the "primer" to a successful leader, requiring development in self-awareness, self-management, social awareness, and social skills. According to Goleman, once developed, one's emotional intelligence manifests to one of six dominant leadership styles: affiliative (grounded in emotional connections), democratic (building team consensus), pacesetting (ambitious standards and expect competence), coaching (groom employees for future roles), coercive (demand compliance), or authoritarian (moving everyone towards one shared vision; 2000). All but coercive leadership are beneficial, as coercive leaderships are unable to share power and responsibility.

Leadership literature within educational settings has evolved drastically within recent years. Educational leadership has morphed, differentiating between the concepts of management and leadership. While this evolution can be endlessly unpacked, there are several essential points to consider for this study. First, leadership has transitioned from heroic acts (the idea that one person can do it all and solve all the problems) to a more distributive approach (Klar et al., 2015). Much inferred, the idea of distributive leadership is the recognition that leaders must share responsibility (Mulford & Silins, 2003). However, this also entails creating succession plans, identifying future leaders, contriving leadership opportunities, and providing ongoing support (Ziskin, 2015). The literature

suggests that distributive leadership requires a level of humility in practice and a desire to make a meaningful impact on an organization (sometimes referred to as servant leadership; Hoch et al., 2018). Within this preparation for succession, it is essential that administrators are prepared to support programs for SWDs.

Responsibilities. Beyond displaying leadership characteristics, school administrators are responsible for demonstrating competency across various skills. For example, 20 states and two territories in the United States utilize the School Leader Licensure Exam (The SLS Study Companion, n.d.). This exam measures strategic leadership, instructional leadership, climate and culture, ethical leadership, organizational leadership, and community engagement. Administrators are expected to disaggregate data to write a carefully scaffolded school improvement plan, model best teaching practices, and foster a welcoming work environment. Within that environment, administrators are also responsible for effectively managing and motivating staff, fostering collaboration, managing assets, and developing a relationship with the community they serve (Döş & Savaş, 2015). While all of this may be possible, education leaders' attrition rates and reported stress indicate that administrators cannot handle these responsibilities alone (Wells & Klocko, 2018).

In addition to understanding administration competency domains and their implications, there are four interpretations of the organizational context (or realms). The organizational context refers to the environment in which a business operates, which includes internal and external issues that impact the work of the organization (Ehsanfar, 2019). These realms include the political, human resource, structural, and symbolic

frameworks (Bolman & Deal, 1984; Bolman & Deal, 2021). First, administrators need to be cognizant of which realm they are operating in and learn to weave through each realm strategically. The argument remains that administrators should be proficient in each realm, understanding how to navigate among each (Snyder, 2018). For example, according to the organizational realms, if an education leader were faced with a decision that involved the human resources and structural framework (e.g., adding or changing a position), the leader would be wise to align that new position with the mission and needs of the organization (symbolic framework). However, if that education leader did not attempt to integrate into the political realm by involving stakeholders in identifying the need, writing the new job description, and recruiting, it could result in backlash from the staff and various stakeholders (e.g., community members, school district employees, parents). Neglecting to gain buy-in from stakeholders could result in retaliation from employees, roadblocks in finances, and the position not getting approved.

Decision-Making Models. To gain insight into the weight of expectations on public school administrators, one must observe how decisions are made. Hoy and Tartar (2008) outlined eight theoretical decision-making models: rational, optimizing and satisficing, muddling, mixed scanning, garbage cans, politics, leadership, and shared decision making. Fascinatingly, Hoy and Tartar recommend school administrators use shared decision-making and reflection, again bringing the literature back to a new-aged idea of leading with humility rather than an iron fist, thereby collaborating instead of dictating.

Reflection. Hoy and Tartar (2008) highlighted the importance of reflective practice as a critical component of administrative leadership (Glanz & Heimann, 2019; Houchens, 2018). For years, educational leadership programs used case studies as an opportunity to grow and reflect on practice in problem-solving, management skills, and decision-making with education leader candidates (Kowalski, 2011). Similarly, administrators are expected to follow a cycle of analyzing, framing, applying, and reflecting during decision making (Schon, 1990). However, it should be noted that while the practice of reflection is consistent with best practice, teachers and education leaders do not always inherently reflect on their practices to the point of effecting change (Spalding, 2020; Zimmerman, 2011) In some instances, reflection is a forced activity as a part of a professional learning community (PLC) or warm-up activity. A PLC is a cyclical process in which a team of professionals (e.g., teachers, administrators, coaches) collaboratively engage in action research to meet the needs of their learners (Miller, 2020). However, education leaders do not always genuinely dive into in-depth reflection to influence their practice (Zimmerman, 2011). Unfortunately, with the current demands upon education leaders (e.g., low staff retention, COVID-19 impacts, learning loss), little time is available for job-embedded opportunities for reflection (Hitt et al., 2012). Thus, there are very few opportunities to reflect and focus on improving collaboration.

PELP Framework. Recently, Harvard's PELP designed a coherent framework that illustrates a school system's interconnectivity (Childress et al., 2011). Rather than a linear, hierarchical structure, this model shows how influences (e.g., how COVID-19 has impacted the way in which schools operate) impact the system from the outside in. This

theoretical framework was designed to assist education leaders' improvement efforts by providing a roadmap that connects broad initiatives to the instructional core (Public Education Leadership Project, 2020). This framework also helps identify critical elements and interdependencies that guide work to achieve an identified goal (Cheatham et al., 2020). For example, Montgomery County Public Schools (MCPS) in Maryland used the PELP Coherence Framework to approach race, accountability, and the achievement gap due to the complexity of subgroup performance discrepancies (Mapp et al., 2006). More recently, Baltimore City Public Schools used the framework to understand their new Chief Executive Officer's influence on the school system (City et al., 2018).
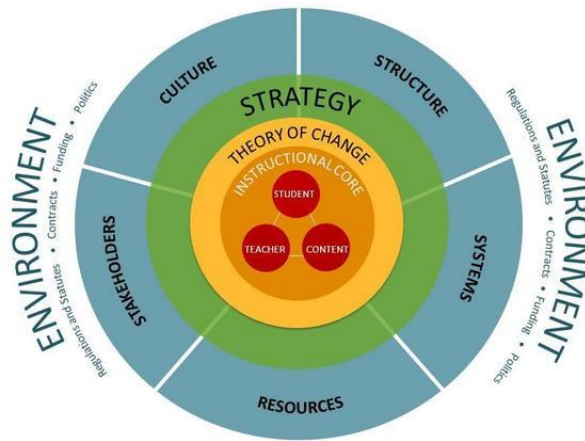
Note: This figure is a visual representation of the PELP coherence framework adapted from Tushman and O'Reilly's (2002) Congruence Model. This framework was developed to assist educational leaders understand the interdependence of different variables within a school system.

Figure 3

Public Education Leadership Project (PELP) Coherence Framework (2020)

The PELP framework outlines environmental factors around a school system, such as regulations, contracts, funding, and politics. The first inner circle includes resources, stakeholders, systems, culture, and structure of the organization. All these factors directly influence the strategy designed to address a school's needs. From there, these strategies shape the theory of change, directly impacting the instructional core. The instructional core is comprised of students, teachers, and the content being taught (Public Education Leadership Project, 2020). Not only does this model address all the components of a school system, but it also illustrates the cyclical connectivity between these elements rather than a top-down approach. Therefore, this model outlines the need to make decisions regarding student support collaboratively.

Environment. School environments have been disrupted for numerous reasons starting in 2018. First, the election of the Trump administration led to the appointment of former Secretary of Education Betsy Devos. She demonstrated a firm commitment to the private education sector, had no experience within public school systems and attempted to redirect funds away from public schools to fund charter schools (Green, 2020). Second, while there were no profound changes to educational laws and policies during the Trump administration, other changes to social policies impacted the students educators serve. For example, changes to immigration policies, healthcare, policies regarding lesbian, gay, bisexual, transgender, and queer, and race relations all impacted the students and school community interpersonal relations (Gurney, 2016; Human rights Campaign, n.d.; Montanaro, 2020). Third, the most prominent hit to the education system within the 2019-2020 and 2020-2021 school years was the COVID-19 pandemic. While

some pandemic implications were unavoidable (e.g., closing schools, social distancing, use of personal protective equipment), the messaging from the government to schools was changing and inconsistent (Bierman & Megerian, 2020). As a result, states' approaches to handling the pandemic varied greatly (e.g., Texas required all schools to open in person five days a week as opposed to New Mexico, which provided hybrid instruction during the same time period; Birenbaum & Bikales, 2020). Regardless of the decision, planning to return in the middle of a major pandemic required an immense amount of collaboration.

Stakeholders, Culture, Structure, Resources, and Systems. While stakeholders identified in the PELP framework's, culture, structure, and systems cannot be universally addressed at length in this chapter—school resources can. However, it is important to note that as school systems make decisions, stakeholders (e.g., administrators, teachers, support staff, parents, and community) all influence how a school system operates. The combination of people and their values builds a culture, further influencing the flow of business. Stakeholders and culture are interconnected with the structures and systems built, which heavily influences the allocation of resources. Even before the pandemic, many school systems were poorly or disproportionately funded (in fact, IDEA has never been fully funded; Mathewson, 2020; Smith, 2020). As a result, many teachers spend money on classroom materials each year (Karbowski, 2020). Not to mention, teachers across the nation are leaving the profession for lack of fair pay (Dugger, 2021). This results in education leaders spending a considerable amount of time recruiting,

interviewing, training, and attempting to retain teachers (Northeast Regional Resource Center, 2004).

Throughout the pandemic, resources became even more scarce (Baker & Di Carlo, 2020; Romanov & Thatcher, 2020). For many states, funding to the public school systems was cut due to emergency reallocation (Turner, 2020). This left schools to cut teacher positions while also needing to boost funding for technology, sanitation, and personal protective equipment. Also, schools needed to quickly pivot to meet the needs of students who stayed home, purchasing innovative technology tools, software, and learning packets (Campuzano, 2021). Unfortunately, many states struggled to meet the needs of SWDs in a virtual space (Chambers et al., 2020). Beyond the inability to create a stable learning environment, technology was not accessible for SWDs, especially those with more severe cognitive or sensory disabilities, at the beginning of the pandemic (Robertson & Wright, 2020). As a result, all these hurdles forced various stakeholders to collaborate to provide innovative solutions.

Strategy. Recognizing the widespread shift to "normal" after the pandemic, administrators carefully planned for the beginning of the 2021-2022 school year, accounting for the previously mentioned factors (Arundel, 2021). As noted, there have been varied responses to the pandemic. For some schools, such as those in Florida, schools reopened functioning as they did prior to the pandemic during the 2020-2021 school year (Birenbaum & Bikales, 2020). On the other hand, some schools opened as late as March 2021 (e.g., some urban Virginia schools; Cullum, 2021) or did not open in 2021 (Cable News Network, 2021).

Although not an exhaustive list, the strategy section of the PELP framework

includes topics such as (a) test scores, (b) teacher retention, (c) health and wellness, (d)

monetary resources, and (e) social-emotional learning. First, administrators must

recognize that while test score data may exist, the data are not a valid measure of student

progress in many cases (Gewertz, 2021). For example, across many states, students were

required to learn from home throughout some portion of 2020 and 2021. While some

students may have had the privilege of sitting at a desk in a clean and quiet space with a

tutor or other means of support, others had to learn in environments that were

inconducive to learning (e.g., learning alongside peers, cousins, or neighbors; MacGillis,

2020). Second, administrators must carefully plan for the onboarding and retention of

new staff members. This process requires thoughtful mentoring, strategic support, and

fostering leadership in those that seek it (Holmes et al., 2019; Hong & Kapadia Matsko,

2019).

Third, considering only 60% of the population in the United States was

vaccinated by December 7, 2021 (Gonzalez, 2021) and the vaccine was not available to

those under 12 years old until May 13, 2021 (Mervosh, 2021), careful consideration

needed to be taken into the health and safety of students and staff (Eldred, 2021). This

state of vulnerability required ongoing health and safety procedures such as social

distancing measures, heightened cleaning protocols, and cohorting students (Centers for

Disease Control and Prevention, 2021). Cohorting students refers to grouping students

(e.g., group A and group B) in a program together. In terms of the pandemic, students

were put into cohorts to mitigate contact with others and allow for alternating instruction

(e.g., Tuesday and Thursdays cohort A came to school, Wednesday and Fridays cohort B came to school). However, education leaders are better positioned to address some of these needs through additional CARES (Coronavirus Aid Relief and Economic Security) Act funding (LaGrone, 2021). The CARES Act provided schools with additional funding to directly address newly identified needs related to the pandemic (e.g., hand sanitizer, temperature machines, cleaning supplies, masks). Finally, staff need to focus on the social-emotional needs of students now more than ever. Over the past year, students have suffered from their parents losing jobs, moving, food shortages, family deaths, and unpredictable environments (Jones, 2021). To see academic gains, schools must first address the basic needs of students (Department of Education, 2021). As previously noted, this requires the collaboration of multiple stakeholders.

Theory of Change. In a typical school year, it takes time to get staff invested in significant changes, such as introducing PLCs (DuFour et al., 2016). For some schools, it can even take years (Kingcade, 2019). To implement planned changes, education leaders need to craft ongoing professional development carefully. It is essential that this professional development is more than a "one and done" but ongoing learning with built-in time for differentiated modeling, feedback, support, and reflection (Bates & Morgan, 2018). While this process can be time-consuming, it can also be integrated into grade level/content team-based PLCs (Prenger et al., 2017). Therefore, PLCs create the ideal atmosphere to identify issues and contrive an opportunity to collaborate among multiple practitioners (e.g., education leaders, teachers, and specialists such as behavior analysts).

Instructional Core. Finally, the most complex level of careful planning needs to be at the instructional core of the PELP framework. Although the issues teachers endure are critical, students and school-based content should remain the most significant focus as educators reintegrate into buildings. To support students, schools should ensure a strong Multi-Tiered System of Support (MTSS). This support system includes ensuring solid foundational teaching of academic and behavioral literacies to meet the needs of all learners (Dulaney et al., 2013). Also, schools should prepare an extensive continuum of interventions and support to support students, as required.

Additionally, staff will need to go through the curriculum systematically and plan strategically. Students did not receive the same standard of instruction yet continued to be exposed to content amid the chaos of COVID (Oster et al., 2021). As a result, thoughtful planning should assess students' current performance levels and fill in the previously missed content before moving forward. Teachers will also need to adapt to new instructional materials and standards based on their state (e.g., Florida has brand-new standards; Florida Department of Education, n.d.). It is imperative that administrators participate in the PLC process to ensure strategic and differentiated instruction occurs and that supports are put into place for teachers to make it happen (Dulaney et al., 2013).

Education Leadership Barriers. Although administrators face many barriers moving forward after the pandemic, this chapter focuses on those that directly align with special education. First, the field must address the lack of administrator preparation to lead special education programming. Second, administrators are stretched thin and wear many hats; therefore, they have extraordinarily little time to give to a small population of

students. Third, the pandemic sparked a significant learning loss across all students, particularly SWDs.

Education Leadership Programs. Considering there are so many elements to education leadership, it is not surprising that many leadership programs do not have a stand-alone special education course. However, unless a candidate going through the program has prior experience working as a special educator, they may be unaware of special education nuances (Macedonia, 2021). Beyond the basic understandings of special education laws and practices that change as students age, preparing SWDs to matriculate into college is different from a non-disabled peer. Many leaders report entering the field with a lack of understanding regarding special education (Haiyan & Martin, 2015). For example, similar to many other universities, at George Mason University, leadership candidates must take a minimum of 24 credits (for the certificate program). Out of these eight classes, special education is addressed for one week (out of 16 weeks) in the education law class. While special education issues and concepts are embedded elsewhere (e.g., in curriculum and instruction courses), there is not a course that solely focuses on special education. Given the lack of higher education knowledge, administrator candidates are underprepared to oversee special education programming (Macedonia, 2021).

Time. As previously mentioned, administrators are responsible for many aspects of the day-to-day operations of a school building/system. When done well, special education programming takes a dedicated amount of time and effort. Administrators must ensure that each IEP is compliant with the law, addresses the student's learning needs,

and captures the family's concerns (Bateman & Bateman, 2014). In addition, they are responsible for overseeing the legal aspects, managing crises, and facilitating the MTSS process (Behavioral Health Services, 2019; Choi et al., 2019). Understandably, many administrators feel overwhelmed and that it is unreasonable to expect this level of information and competency with little training (Macedonia, 2021).

Learning Loss. Finally, the most significant barrier for all students in the 2021-2022 school year was learning loss. While the hope is for average students to readily recover academically, many SWDs significantly regressed in academic and functional skills (UNICEF, 2021). For students who attend schools in more restrictive environments (e.g., schools specifically designed for SWDs), a summer out of the classroom can be detrimental, let alone an entire school year (Barnard-Brak & Stevens, 2021). Therefore, administrators must ensure rigorous, individualized instruction is provided to make up for teaching and learning loss.

Special Education

Within the last 50-60 years, special education supports and services have evolved. SWDs were once exclusively segregated and isolated in private care facilities and institutions with less than humane circumstances as recently as the 1970s (Individuals with Disabilities Education Act, 2004). In 1975, Congress passed the Education of the Handicapped Act (EHA). For the first time, the EHA required all schools to accept federal funding to support equal access and provide one meal a day for children with disabilities (U.S. Department of Education, 2007). This Act went hand in hand with

Section 504 of the Rehabilitation Act and the Americans with Disabilities Act—both of which made discrimination against individuals with disabilities illegal (Zirkel, 2005).

Section 504 of the Rehabilitation Act was written to ensure that adults and children would not be given unequal treatment due to their disability in a school, job, or community (dredf.org, 2021). The Americans with Disabilities Act prohibits those with a disability from being discriminated against in the areas of "public life, including jobs, schools, transportation, and all public and private places that are open to the general public" (Americans with Disabilities Act, 1990; adata.org, 2021). This triad of changes in law opened the flood gates to a world of new opportunities and new shortcomings in special education, such as how to address students' needs properly, where to address them, who would address them, and creating systems to determine all these factors.

In addition to significant legislation, several court cases set new precedents within the special education field. Throughout the 1980s and '90s, five major court cases occurred that paved the way for the basic tenets of what would become the reauthorization of the EHA- the Individuals Disabilities Education Act (IDEA) of 1990. Respectively, *Board of Education v. Rowley* (*1982*) reconceptualized a free and appropriate public education (FAPE) in their argument over a sign-language interpreter. The holding established the requirement that schools provide eligible students with an Individualized Education Program (IEP) that is "reasonably calculated to enable the child to receive educational benefits." The court held that while FAPE was initially meant for procedural purposes, this compliance also included substantive requirements (Alexander & Alexander, 2019).

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Following cases such as *Mills v. Board of Education of District of Columbia* (*1972*), *Irving Independent School District v. Tatro* (*1984*), *Burlington School Committee v. Department of Education* (*1985*), *Hoing v. Doe* (*1988*), and *Southeastern Community College v. Davis* (*1979)* laid the groundwork and the pillars on which IDEA stands today. IDEA outlines:

> "a) entitlement, for eligible children, of 'free and appropriate public education' (FAPE), with particular attention to what 'appropriate' means; b) FAPE component, in addition to special education of 'related services,' with particular attention as to where the line is drawn for the medical services exclusion; c) high-stakes remedy of 'tuition reimbursement,' with particular attention to the FAPE-based formula, or criteria, for determining whether the parent is entitled to this remedial relief in the wake of unilateral placement; d) issue of discipline in the form of a removal from school for more than ten days with particular attention to dangerous behavior; and e) requirements of Section 504 and the ADA for students who are not eligible under the IDEA, with particular attention to the special meaning of 'disability' and 'reasonable accommodation'" (Zirkel, 2005).

The most recent reauthorization of IDEA in 2004 reflects changes to legal definitions, state eligibility, IEP components, and procedural safeguards (Wright, 2006). This version of IDEA (2004) is what special education practitioners operate under today. To receive special education services in a public-school setting, students must demonstrate a lack of progress in the general education curriculum without additional supports and services (Bateman & Bateman, 2014). Prior to testing, school systems are

encouraged to utilize MTSS. MTSS combines what is formerly known as Response to

Intervention (RTI; an academic-based intervention system) and Positive Behavioral

Interventions and Supports (PBIS; McIntosh & Goodman, 2016). Therefore, MTSS

recognizes that behavior and academics are not independent of one another, but

interdependent (Lexia, n.d.). MTSS follows the same structures as RTI and PBIS, in that

the ideal school should have approximately 80% of students fall into Tier I (also known

as general education or what is available to all students), 15% of students in Tier II (e.g.,

supplemental resources such as counseling, social skills groups, and intervention groups),

and 5% of students in Tier III (also known as special education).

Processes and Procedures. Considering differing circumstances and student

needs, parameters for how long a student goes through the MTSS process do not exist

(Massachusetts Department of Elementary and Secondary Education, 2018). However,

MTSS teams attempt multiple Tier I and Tier II interventions prior to making a

recommendation to a parent for a special education evaluation (Rosen, n.d.). In many

cases, MTSS prevents students from being misidentified as a student with a disability and

connects them with supplemental support. Parents may also request to have their child

tested for a disability at any time at the expense of the school system if a disability is

suspected (Learning Disabilities Association of America, n.d.). Once the evaluation

process is initiated, the MTSS team decides what testing is required (depending upon the

circumstances). Then, the team has 60 calendar days to complete the testing from the

time consent is given from the parents (IDEA, 2004; Wright, 2008).

Upon requesting an initial evaluation, MTSS teams request a comprehensive evaluation to look at a child's needs holistically. A full evaluation can include a developmental, educational, psychological, audiological, sociocultural, speech and language, occupational therapy, and physical therapy evaluation. Also, additional vision and hearing screenings, behavioral observations, and review of records (e.g., educational, health, legal) may be included (Friend, 2018). Once the team compiles and presents this information at a meeting in formal reports, the MTSS team then determines if there is a disability that has an adverse effect on the student's ability to access their property interest in education. If the child does not fall into any exclusionary criteria (e.g., cultural, environmental, or economic disadvantage; Whittaker & Ortiz, 2019) and the team determines "yes," then the next step is to identify which disability category (or categories) under which the child will receive services.

If a child is found eligible for special education services, they receive services under one (or more) of the 13 categories of disability outlined by IDEA. These categories include: (a) specific learning disability, (b) other health impairment, (c) autism spectrum disorder, (d) emotional disturbance, (e) speech or language impairment, (f) visual impairment, (g) deafness, (h) hearing impairment, (i) deaf-blindness, (j) orthopedic impairment, (k) intellectual disability, (l) traumatic brain injury, (m) multiple disabilities (Lee, n.d.). Once the eligibility team collectively decides and the parent(s)/guardian consent to the evaluation findings, a special education case manager is assigned as the primary point of contact regarding special education services for the student and their IEP team. Thereafter, a new team forms to collaboratively write an IEP within 30 calendar

days of the eligibility consent (IDEA § 300.343, 2004). At a minimum, the IEP team includes the parent/guardian, general education teacher, special education teacher, and an administrator. Depending upon the related services identified, additional professionals would be included (e.g., speech-language pathologists if speech and language services are delivered). The student may also be included on the team and, at minimum, must be invited to their IEP meets once they reach 14 years old (IDEA § 300.321, 2004).

The IEP includes sections such as present levels of performance (both academic and functional), goals and objectives, transition, services (e.g., academic, related services, and transportation), accommodations (e.g., daily and testing), least restrictive environment, extended school year services (if applicable), and the prior written notice (Gartin & Murdick, 2005). These components directly align with the identified deficits in the eligibility information and the deficits identified in the present performance levels. For example, if an eligibility team determines that a student has low muscle tone and lack of fine motor skills, it would be expected to outline the educational impact in the narrative and propose goal(s), services, and accommodations to address these deficits (National Association of Special Education Teachers, n.d.).

Once the parent consents to special education services by signing the IEP, service delivery beings. Much like the MTSS process, ongoing progress monitoring occurs to determine if the intervention packages are effective. Parents are notified of student progress, the frequency of which is outlined and agreed upon in the IEP meeting (Yell et al., 2020). If a child is not making adequate progress or falls behind in another area, the IEP team may reconvene at any time, at any team member's request to amend the IEP.

Otherwise, the IEP team is required to meet annually to write an updated IEP. Also, the IEP team convenes an eligibility team tri-annually to determine if the student still qualifies for special education services and if the educational label is still a good fit for the student's needs (Friend, 2018). In some cases, students can requalify under the same label, change labels, add/lose labels, or even not qualify.

Special Education Barriers. Special education programs are challenging for education leaders to oversee with so many dynamic elements (Luckner & Movahedazarhouligh, 2019). These program components include (but are not limited to) service delivery models, teacher supervision, safety management, instructional delivery, policy/law, and fiscal resources. Additionally, the students a school serves each year changes (e.g., due to matriculation, transfer students, newly identified students). Therefore, the yearly coordination of implementing these programs changes. For programs to be successful, coordinators (i.e., central office-based administrators in charge of district-wide programs) and administrators must continually assess numerous variables, plan, and act to ensure students are receiving necessary support.

Service Delivery. First, designing the delivery of special education services across a school district primarily depends on available resources. For example, some elementary schools have as many as one special education teacher per grade level, and some have as few as one for the entire school. Factors such as the number of students with disabilities, total service times, and how the budget is allocated determine the student-to-teacher ratio. The number of teachers on staff affects the school's capacity to deliver services. For schools with many special education teachers, general education services might be

provided to students within their own classrooms (if students are grouped in meaningful ways). In contrast, schools with fewer teachers may need to offer more creative solutions, such as assigning students across the grade level into one general education classroom. Additionally, schools with fewer teachers may also need to group students across grade levels, forcing the school to provide services in a special education setting and, thus, a more restrictive environment. Therefore, the staff-to-student ratio is directly intertwined with how the school can offer a continuum of services.

Second, when services are delivered within the general education setting, evidence indicates that all students benefit from co-teaching models (Walther-Thomas, 1997; West Virginia Department of Education, 2020). Unfortunately, establishing a cohesive co-teaching environment is not as simple as pairing two teachers together. This process involves the careful design of student placement and groupings, establishing common planning time, setting up a classroom environment which is conducive to co-teaching, and navigating adult relationships (Pearl, n.d.). For some teachers, going from working independently to a co-teaching relationship can be quite difficult (Asher, 2020). This process requires a wiliness to be flexible in practices, sharing spaces, and giving up the idea of total control over the classroom environment. Also, co-teaching requires shared responsibility, collaborating on lesson planning, and a willingness to grow in practices (Willingham, 2019).

Third, service delivery in the special education setting presents entirely new challenges. It can be difficult to find the proper spaces, create schedules, and group students together appropriately. For example, if a case manager is working with students

in both first and second grade who have similar goals, their general education classroom reading blocks are unlikely to align. However, the case manager is equally unlikely to have the time to work with the students in grade-level groups. Additionally, self-contained settings for students with intensive needs require even more support from a variety of practitioners. For example, some schools deliver programs that encompass as many as six grade levels (K-5) with only one teacher (Chen, 2020).

   Teacher Supervision. Research indicates numerous barriers to supervising special education staff (Macedonia, 2021). First, undergraduate programs are struggling to recruit aspiring teachers. Within the current political context of education, teachers report being underpaid, unappreciated, and lacking resources (Learning Policy Institute, 2021; Mao & Lee, 2021). Even when a promising pre-service teacher completes an undergraduate program knowing these difficulties, they are not always fully prepared to enter the workforce after graduation (Granata, n.d.; National Council on Teacher Quality, n.d.). One issue schools report is teachers' lack of knowledge in understanding both special education and specific content area knowledge (Fallona & Johnson, 2019). Therefore, undergraduate students are now encouraged to explore dual-licensure degrees to gain specific content knowledge (e.g., early childhood, mathematics, reading; Kent & Giles, 2016). In addition to academics, teachers are often unprepared to handle extreme student behaviors (Oliver & Reschly, 2010).

   Next, it is difficult to find highly qualified teacher candidates to fill special education positions. Prior to the COVID-19 pandemic, there was a national shortage of special education teachers (Reeves et al., 2021). Throughout the pandemic, special

educators were put into uncomfortable positions, being asked to do things that opposed CDC guidelines, such as providing students with personal hygiene assistance (Torres, 2020). Therefore, waves of teachers left the profession or plan to do so soon (Loewus, 2021). For the 2021-2022 school year, there were more vacancies in special education positions than even before (Monnin et al., 2021).

Once qualified teachers are hired, administrators are faced with retention challenges. On average, 25% of special education teachers change roles or leave the profession every year (The Iris Center, 2013). This is due to a lack of administrative support, lack of resources, overall fatigue, and a gambit of other reasons (Conley & You, 2017; McLesky et al., 2004). Further, without more senior teachers in place, creating a culture of mentoring and support is challenging (Sparks, 2011). Continual turnover in staffing also makes it difficult to create a sense of continuity and build programmatic momentum (Carver-Thomas & Darling-Hammond, 2017).

Safety Management. As previously noted, staff are not always equipped to respond aptly to problematic behaviors. In some instances, staff have reported students destroying classrooms, injuring staff and students, and causing classroom evacuations (Rosales, 2019). In response to this, schools across the U.S. have ineffectively responded through plans that lack positive reinforcement and teaching strategies (Gage et al., 2020). Some cases used unapproved methods of restraint, causing harm to students (Majority Committee Staff Report, 2014). Others utilized vacant office spaces for seclusion rooms, leaving students alone for hours at a time (Gage et al., 2020). Therefore, any educators working with students with disabilities should be trained in appropriate de-escalation

methods as well as when it is appropriate to respond with an approved restraint (Nonviolent Crisis Intervention, n.d.). Also, when necessary, schools need to establish crisis intervention plans for students with extremely violent behavior that puts the student or others in a dangerous situation (Rosales, 2019). This process involves conducting a functional behavior assessment (FBA) to establish the function of the behavior to be addressed in the behavior intervention plan (BIP; Alstot & Alstot, 2015; Scheuermann & Hall, 2016).

Law. There are multiple ambiguous laws and policies related to special education that are left open to interpretation. For example, IDEA states that students should be incorporated into the general education setting to the "maximum extent appropriate" (34 CFR § 300.114). However, a child's services can be different from one context to another, depending upon the resources available in the school district and the program's pedagogy. In addition, ambiguous language can leave room for interpretation as to how long and often students are included in activities with their peers.

Another example is the disconnect between the safety nets worked into IDEA that protect students with disabilities and the unique workplace hazards for staff (Tiesman et al., 2013). For example, if a SWDs were to hit a teacher and the behavior was deemed a manifestation of their disability, the child would not necessarily be given consequences (e.g., change of placement; Fisher et al., 2021). However, teachers that work with students who demonstrate aggressive behaviors are provided protections through their unions, organizational policies, and state law. For example, a teacher may pursue civil charges against a student or request to be moved internally. Considering IDEA has not

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been reauthorized since 2004, there are multiple opportunities for updating the language. Unfortunately, updating this act would be ill-advised during times of political tensions at the risk of pieces of the act being used as bargaining chips in political agendas (Mandlawitz, 2016).

Fiscal Resources. Since the reauthorization in 2004, IDEA has yet to receive the full funding outlined in the act (Congressional Research Service, 2019; National Education Association, 2021). As a direct result, public schools are struggling financially to meet the needs of their learners. Recently, California reported the average cost of special education services for a student is $27,000, while a general education costs $10,000 per fiscal year (Petek, 2019). This is partly due to the increased number of students who qualify for special education, highly specialized service providers, and supplemental equipment (Banks, 2020). For example, access to accessibility programs like *Boardmaker Online* can cost as much as $199 per professional account a year (Boardmaker, n.d.). In addition, adaptive equipment can be costly; an item such as a pediatric stander can cost as much as $1600 (Rehabmart, n.d.). To make up some of this funding, public schools submit Medicare billing for certain services such as speech-language services, if students qualify (American Speech-Language-Hearing Association, 2005).

Applied Behavior Analysis

ABA work stems from empiricist epistemology (Moore, 2010). In the 1930s and 1940s, Herbert Feigl began working with B.F. Skinner in the Psychology Department of the University of Minnesota. Through their work (and the work of other logical

empiricists of the time), the philosophy of sciences within psychology began to take a new shape (Moore, 2010). The work from Feigl and Skinner opened the doorway for John B. Watson, the "Father of Behaviorism," to introduce the contingent relationship between stimulus and response (Skinner, 1964). However, Watson's work left a desire for more, not accounting for the unobserved or internal events of his subjects (e.g., feelings). This search for further understanding behavior led to the development of neo-behaviorism. The idea of neo-behaviorism did not fit the mold of empiricism anymore due to its inability to remain objective and observable (Moore, 2010).

Therefore, Skinner moved forward in the world of behaviorism, developing an entire foundation that framed ABA. Much like Watson, Skinner believed in the stimulus-response relationship and acknowledged that internal events (e.g., feelings, thoughts, senses) played a role in the learning process. Despite acknowledging that these phenomena exist, he only accounted for the observable and measurable (Skinner, 1964). Thus, the understanding of the three-term contingency (antecedent, behavior, and consequence). Skinner continued to build on this framework to understand how the response aspect of this contingency began to occur and how behavior transformed through the learning process. He expanded on the basic concept of the stimulus-response relationship in explaining how an antecedent elicits behavior that is reinforced immediately after the display of the behavior and how behavior that is reinforced will either increase or decrease the likelihood of the behavior happening again or if the behavior will change when exposed to the same antecedent (Cooper et al., 2020).

Unfortunately, during the earlier stages of understanding behavior, experimentation with aversive stimuli (e.g., electric shock) led to a negative connotation for the field of ABA (The Controversy Around ABA, 2019). Also, there were many broad misconceptions about ABA and how it could help people (Trump et al., 2018). This lack of public understanding and spread of misinformation likely contributed to ABA not being recognized as a beneficial approach to behavior change until recent years. Fortunately, a group of individuals who practiced ABA formed the Behavior Analyst Certification Board (BACB) in 1998. This body of BACB's mission was "to protect consumers of behavior analysis services worldwide by systematically establishing, promoting, and disseminating professional standards" (BACB, n.d.). This mission is accomplished through a certification system in which over 50,000 behavior analysts and 96,000 behavior technicians are certified nationally. Today, the BACB standards are the building blocks in which licensure laws are written in the United States, overseeing over 12 different subspecialties (BACB Fact Sheet, 2021; Applied Behavior Analysis Subspecialty Areas, 2021). These subspecialties include areas such as ASD, intellectual disability (ID), education, and OBM.
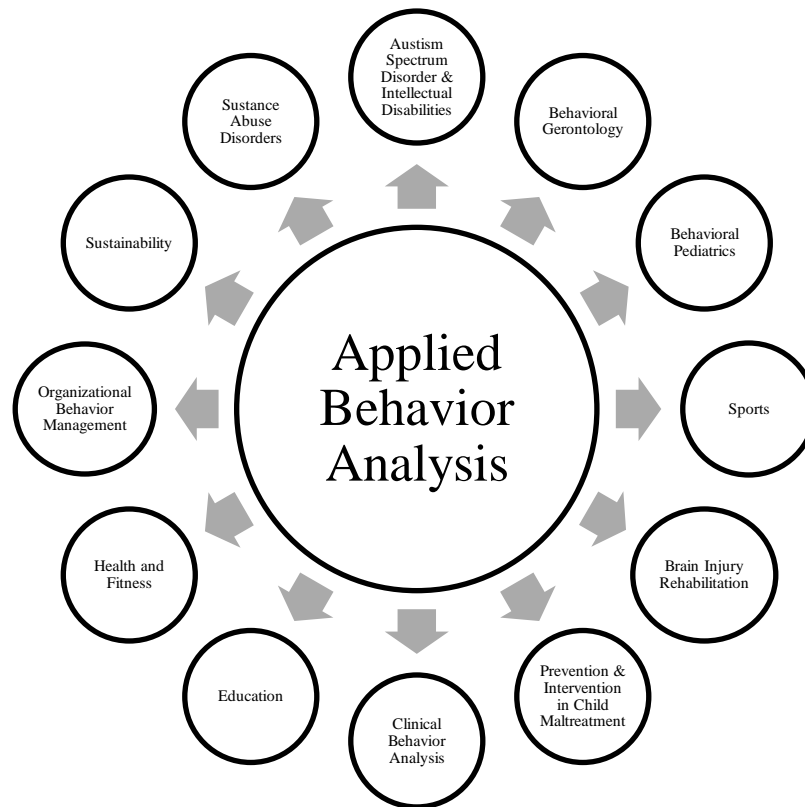
Note: This figure is a visual representation of the 12 subspecialties of ABA listed on the BACB's website (Applied Behavior Analysis Subspecialty Areas, 2021).

Figure 4

ABA Subspecialties

Credentials

Much like the BACB organization, the ethical code for behavior analysts continuously evolves based on current research and social norms. The most recent *Ethics Code for Behavior Analysts* (2020), which goes into effect in 2022, outlines responsibilities: (1) as a professional, (2) in practice, (3) to clients and stakeholders, (4) to supervisees and trainees, (5) in public statements, and (6) in research (2020). Anyone credentialed through the board who is practicing ABA is required to comply with these

ethical standards. Otherwise, various stakeholders (e.g., clients, supervisors, colleagues) can report unethical conduct to the BACB for review. This process can lead to ramifications such as corrective actions, sanctions, or required supervision (The Life of an Ethics Case, 2019).

To adequately prepare practitioners to meet the high expectations of the board and clients, candidates are required to hold a high school degree to become a Registered Behavior Technician (RBT), or a bachelor's degree to be a Board-Certified Assistant Behavior Analyst (BCaBA). Both certifications require supervision by a Board-Certified Behavior Analyst (BCBA; Board Certified Assistant Behavior Analyst, n.d.; Registered Behavior Technician, n.d.). There are three paths to obtaining a BCBA credential; however, most people obtain it through behavior-analytic coursework (Luke et al., 2018). This option requires participants to obtain a master's degree from a qualifying institution, complete appropriately outlined coursework, and complete supervised experience. According to the new *5th Edition Task List*, supervision may include supervised fieldwork for a total of 2000 hours (five percent of which must be face-to-face) within five years across multiple populations. Alternatively, candidates can complete concentrated supervised fieldwork for 1500 hours (10% of which must be face-to-face) across six contacts in addition to other strict parameters (Board Certified Behavior Analyst, n.d.).

According to FinAid.org, master's degrees can cost between $30,000-$120,000 depending upon the university, location of where courses are taken, and in-state/out-of-state tuition. Moreover, supervision experiences add additional debt, paying an hourly rate for all face-to-face sessions (What is the Average BCBA Salary by State, n.d.).

Depending on the state, BCBAs might charge as much as $44 an hour, resulting in

approximately $4,400 if one chooses to do 100 hours of independent supervised

fieldwork. Once the BACB approves the coursework and supervision experience, the

BCBA must apply to sit for the exam (an additional $240) and register ($125). According

to the BCBA Annual Data Report for 2016-2018, 66%, 65%, and 65% of those who sat

for the exam passed. With such a rigorous test, many applicants enroll in additional test

preparation programs such as Behavior Development Solutions, Learning Module Series,

which may cost between $369-$749 (CBA Learning Module Series TL4, n.d.). Another

example is passing the Big ABA Exam, which offers mock tests for $259, and six-week

workshops with a study manual for $569 (Pass the Big ABA Exam, n.d.).

Once certification is obtained, it is expensive and time-consuming for BCBAs to

stay certified. BCBAs obtain 32 continuing education units (CEUs) per two-year

certification cycle. These may be obtained through online learning, attending

conferences, teaching, and scholarship opportunities. In addition, BCBAs may collect

CEUs for supervising those seeking candidacy, which also requires additional

requirements (e.g., completing the required eight-hour supervision CEU). Once these

CEUs are obtained, BCBAs must complete the recertification application and pay an

additional $215 (BCBA Handbook, 2021).

Relative Uses of ABA

As noted in Figure 4, there are multiple career fields in which ABA can be

applied. In this section, ABA research and subspecialties related to this paper will be

discussed. These areas include: (a) schools and (b) OBM.

Schools. With a governing body in place ensuring ethical practice, the field of ABA has expanded, particularly in the field of special education. Even though many people equate ABA with ASD, its roots are primarily in the field of science. Cooper and colleagues (2020) define ABA as "a scientific approach for discovering environmental variables that reliably influence socially significant behavior and for developing a technology of behavior change that takes practice advantage of those discoveries" (p. 2). ABA practices are utilized in clinical programs, education, OBM, sports performance, fitness, animal training, finance, safety, sustainability, and research, among other professions (Roane et al., 2015).

ABA is utilized predominantly to shape intense student behaviors and teach students with disabilities within school environments. BCBAs are called on to conduct an FBA or functional analysis of extreme behaviors (F.A.; Oram et al., 2016). Both processes identify the function of the behavior. There are four primary functions of behavior: (1) sensory (also known as automatic reinforcement), (2) escape, (3) attention, and (4) access to tangibles/edibles (Fahmie et al., 2020). Next, a behavior intervention plan (BIP) is written in collaboration with a team of service providers and the family. To systematically change behavior, the contingencies of the antecedents and consequences need to be altered consistently. For example, when working with a student who habitually sees work and then begins showing aggressive behavior, the teacher can remove or lessen work demands to prevent the aggressive behavior. Although it may appear to be managing the student's behavior by decreasing aggression, the child's aggression is being

reinforced by escaping work. Therefore, an appropriate intervention may not remove the demands and only allow the student to escape once the work is complete.

Considering the importance of consistency, continuity of services between providers is essential (Ward & Page, n.d.). Classroom settings often have multiple adults working with one student across a day or a week (e.g., teacher, instructional assistant, related service providers, "specials" teachers). Therefore, there is a prescribed method to train other staff members on implementing a BIP. This process includes: (1) providing a written description of the plan, (2) providing a rationale, (3) modeling the intervention, (4) role-playing/practicing the intervention, (5) providing feedback, and (6) repeating steps three through five until a prescribed criterion has been met (Reid et al., 2012). After initial training, continued observations and feedback in live settings ensure the behavior is mastered and maintained over time. BCBAs then use structured fidelity of implementation checklists to ensure the integrity of the intervention. Also, the supervising behavior analyst would take interobserver agreement data to ensure data collection is consistent and valid across staff members (Hill, 2019).

OBM. OBM is the application of ABA within the context of a workplace environment (Weatherly, 2021). It is essential to note that OBM is different from the more common term: organizational behavior (OB). OB is the study of both group and individual employee interactions, processes, and structures to seek more efficient ways of doing things (University of Southern Indiana, 2018). Overall, OB is group-focused and utilizes group-design methodologies (Chief Motivating Officers, 2018). While OBM appears to fall under the OB umbrella, it is differentiated by its systematic application of

ABA principles to one or a few employees at a time, focusing on observable and measurable outcomes (BACB, 2019). For example, an OB researcher may examine the energy benefits for a supervisor if their subordinates show appreciation (Sheridan & Amrbose, 2020). Contrarily, an OBM researcher may examine the effects of different types of feedback on skills such as typing accuracy and speed (Guadalupe & Alvero, 2021).

Within the OBM subspeciality, there are eight subareas identified by the BACB. These areas include: (a) performance management, (b) behavior-based safety, (c) behavioral systems analysis, (d) consumer behavior analysis, (e) health and wellness, (f) monetary incentive systems, (g) training and development, and (h) leadership and culture (BACB, 2019). While some of these subareas overlap with the subspecialties in Figure 4, it should be noted that there is little to no research in which OBM is utilized in schools. This creates an opportunity for researchers to examine the utilization of these principles within the context of a school setting, where ABA is already being used with students.

Approaches Used in OBM

There are numerous strategies within ABA that can be used to teach or change a behavior and OBM uses a variety of these tools within the workplace setting (Chesser, 2021). Within this section, research regarding: (a) positive reinforcement, (b), token economy systems, (c) visual feedback, and (d) behavior skills training (BST) will be discussed. These concepts also lay the groundwork for a proposed intervention package, described in chapter three.

Positive Reinforcement. As previously noted, the foundation of behaviorism is the three-term contingency; also known as the antecedent-behavior-consequence relationship (McSweeney & Murphy, 2017). This principle outlines the notion that all behaviors are caused by something (an antecedent) and are followed directly by something (a consequence), which increases or decreases the likelihood of that behavior happening again in the future. For example, if a teacher asks a question to the class (antecedent), a student raises their hand (behavior), and the teacher calls on that student (consequence). However, the teacher providing positive reinforcement (calling on the students) as a consequence will increase the likelihood that behavior (e.g., raising a hand to answer questions) will happen again in the future.

There are four types of consequential strategies that behaviorists utilize (see Table 1). These strategies include: (a) positive reinforcement, (b) negative reinforcement, (c) positive punishment, and (d) negative punishment. Positive reinforcement is the presentation of a desired stimulus directly after the behavior that increases the likelihood of a behavior happening again in the future (e.g., giving an M&M to a child after she uses the toilet during toilet training; Wayne et al., 2021). Negative reinforcement is the withdrawal of an unwanted stimulus that increases the likelihood of a behavior happening again in the future (e.g., asking for a break and getting to leave a lecture; Romani et al., 2015) Positive punishment is the presentation of an unwanted stimulus directly after the behavior that decreases the likelihood of a behavior happening again (e.g., yelling at a student for talking out of turn; McConnell, 1990). Negative punishment is the removal of a desired stimulus directly after the behavior that decreases the likelihood of the behavior

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happening again (e.g., taking a child's video games away for not cleaning their room; McConnell, 1990).

Table 1

Consequence Strategies

	Present/Increase Stimulus	**Withdraw/Decrease Stimulus**
Increases Behavior	Positive Reinforcement	Negative Reinforcement
Decreases Behavior	Positive Punishment	Negative Punishment

Note: Information in Table 1 derived from Wayne et al. (2012).

While research indicates that practitioners are more likely to resort to punishment-based procedures, positive reinforcement-based procedures are used to teach new behaviors and reduce unwanted behaviors (Iwata, 1988; Payne & Dozier, 2013). Positive reinforcement has been shown to be a more effective strategy, indicating prolonged effects (Scott et al., 2021; Stangor & Walinga, 2014). For example, clients' families are more likely to agree to a procedure that would include something positive (e.g., earning edibles such as pretzels) rather than something aversive (e.g., getting yelled at in front of peers). In addition, reinforcement strategies indicate to the learner that the behavior that they are doing is correct, therefore increasing the likelihood of that behavior in the future. Punishment strategies indicate to the learner that the behavior they are doing is incorrect or unwanted; however, they do not teach an appropriate way to achieve the same function of that behavior. A function refers to the reason why a behavior is occurring (Blumberg, 2020). In addition to consequence strategies, practitioners are encouraged to identify

problem behaviors and teach replacement behaviors that are functionally equivalent (i.e., allowing the learner to obtain the same result). For example, if a school employee is often found in the front office talking to the secretary (i.e., escaping work tasks), an administrator may provide the employee reinforcement in the form of leaving work early if they stay in their classroom for a designated amount of time.

Token Economy Systems. Token economy systems are a visual representation of a reinforcement schedule in the form of an exchange of tokens for goods, services, or privileges (Ivy et al., 2017). In practice, token economy systems are tailored to the individual, designed to provide reinforcement on a schedule that is achievable by the learner. These systems can follow one of four schedules: (a) variable ratio, (b) fixed ratio, (c) variable interval, or (d) fixed variable (Mace et al., 2021). Ratio schedules provide reinforcement for every number of behaviors, whereas interval schedules provide reinforcement based on an amount of time (Mace et al., 2021, Chapter 8). For example, a fixed ratio schedule provides reinforcement on a specific schedule such as every five times (notated as FR5). Each time the learner performs the behavior correctly, they receive a "token" that represents a smaller piece of the larger reinforcer which is often paired with verbal praise. Once all tokens are earned, the learner gains access to reinforcement. A real-life example of a FR5 is a coffee shop that offers returning guests a free cup of coffee after their fifth visit. As exemplified in Figure 5, token economy systems can be utilized as a visual support to learners to help remind the learner what they are working for and when reinforcement will be delivered.

Note: This image represents a FR5 positive reinforcement schedule for returning customers. For every five times the customer purchases coffee, they get a free cup of coffee on their sixth visit. Image designed using Vista Print (2021).

Figure 5

Example Token Economy System

Visual Feedback. ABA heavily relies on visual analysis and visual support to provide evidence that an intervention is working (Ledford et al., 2017). Visual feedback is one tool commonly used in performance management and education to help facilitate a conversation about a child or employee's behavior (Alvarado, 2021). Visual feedback refers to any visible support which provides the learner with the ability to self-monitor their performance (e.g., graphs, pictures, tally marks, written feedback). According to Daniels and Bailey (2014), there are ten characteristics of effective feedback:

    1. Specific information

2. Information on a performance the person controls

3. Immediately following the performance if not during

4. Individualized

5. Self-monitored when possible

6. If not self-monitored, delivered by the person in charge

7. Focused on improvement

8. Easily understood

9. Graphed

10. Used as an antecedent to reinforcement

Specifically, the ninth characteristic outlines that feedback should be graphed (see Figure 6). Although there are many mediums in which visual feedback can be given, research has shown that graphs are both more commonly and more effectively used within an OBM context (Alvero et al., 2001).

JARED'S 2021 GOALS
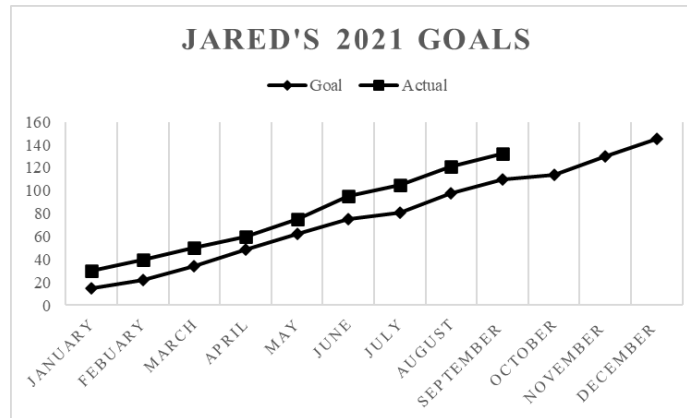
Month	Goal	Actual
January	15	30
February	22	40
March	34	50
April	49	60
May	62	75
June	75	95
July	81	105
August	98	121
September	110	132
October	114	
November	130	
December	145	

Note: This table and graph display an example of how data may be visually represented to provide feedback to a learner or employee. In this example, the learner set goals for the number of pages he wanted to write of his dissertation each month. The line with the diamonds represents each month's goal, and the line with the squares represents the actual performance.

Figure 6

Example of Visual Feedback

Behavior Skills Training. BST refers to a training method, which is data-based in nature, consisting of modeling, feedback, and continued practice until the trainee reaches a pre-determined competency (Parsons & Rollyson, 2012). This method includes:

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(a) providing a rationale, (b) providing a written summary, (c) describing the targeted

skill, (d) demonstrating the skill, (e) practicing with feedback, and (f) repeating until

mastery (see Table 2; Reid et al., 2012). BST has been used across a wide variety of

populations and various contexts such as clinics, schools, parent-training, business

settings, and fitness (Beck, 2021; Leerman et al., 2015; Tarbox & Granpeeshed, 2014).

For example, Rosales and colleagues (2009) utilized BST to teach three adults how to

teach the picture exchange system to children with disabilities. In addition, Catina et al.

(2009) utilized BST to train staff how to implement discrete trial training (i.e., a teaching

method used to systematically teach new skills or content).

Table 2

Behavior Skills Training Protocol

Order	Task
1	Provide rationale (e.g., each behavior is described)
2	Provide a written summary of skills to be trained (e.g., a performance checklist)
3	Describe target skills (e.g., review written information)
4	Demonstrate target skills (e.g., role-play by trainer)
5	Trainee practice with feedback (e.g., trainer watches and gives immediate feedback)
6	Repeat steps 3-5 until predetermined criteria is met (e.g., 80% of the task list is met, staff observed on the jobsite).

Note: Adapted from Reid, Parsons, and Green's (2012) Supervisor's Guidebook: Evidence Based Strategies for Promoting Work Quality and Enjoyment among Human Service Staff.

Barriers in ABA

Multiple barriers slow the growth of applied behavior analysis from the practitioner's stance. Although each sub-category of ABA has different issues, this section focuses specifically on ABA in relation to the public-school setting. Barriers include use of OBM in schools, difficulty growing the field, the cost of credentials, and the lack of incentives.

OBM in Schools. As previously mentioned, OBM is the application of ABA principles within the workplace setting. Across the country, more and more schools are starting to utilize ABA. Initially, this became a more prevalent push when Positive Behavior Interventions and Supports (PBIS) was born as a byproduct of the reauthorization of IDEA in 2004 (Scheuermann & Hall, 2016). Today, teachers and support specialists alike utilize ABA strategies across the continuum of services from general education to special education. For example, something as simple as 'first do your work, then you can free draw' is an example of the Premack principle (Barton, 2013). Unfortunately, integrating principals of ABA into school settings has been challenging. Therefore, much of the focus has been on systematically integrating ABA rather than doing it well.

ABA is utilized with students—especially students with disabilities. However, the application of ABA practices with adults often goes underutilized. For example, if a BCBA is called to conduct an FBA and write a BIP, the teacher is not always correctly trained using BST. BST is a competency-based training method that involves providing a written description of the skills, modeling the skill, role-playing, observing, rehearsing,

and providing feedback until the participant reaches a set criterion (Hill, 2019; Reid et al., 2012) In some cases, teachers are not adequately trained (Robertson & Kokina, 2016). In addition, there are little to no studies that show ABA principles being utilized to manage staff members in schools. Within a special education context alone, there are numerous opportunities to coach staff on concepts such as procedural fidelity, data collection validity, student engagement, and positive feedback. Beyond the apparent barriers of time and caseload sizes, BCBAs are not always in supervisory positions to hold people accountable. For example, in a school context, supervisors are often administrators. Most states require the BCBA to get a minimum of an additional certificate in administration and supervision, complete an internship, and pass yet another test to add this endorsement. Therefore, it can be expensive and time consuming to obtain both certifications to practice ABA and formally supervise within a school setting.

Growing the Field. Beyond the difficulty seeking certification, it is equally challenging to recruit and train new BCBA candidates. Among those certified, many case-manage upwards of 70 students at a time (Cihon et al., 2016). This number of students is substantially more than the 6-16 individuals recommended by the BACB (Dixon et al., 2016). As a result, BCBAs are often unable to take on candidates for supervision due to ethical concerns, as the board discourages BCBAs from stretching their services too thin and potentially comprising the integrity of the service delivery and the field's reputation.

Approximately 10% of BCBAs hold the Board Certified Behavior Analysts-Doctorate (BCBA-D) title and are capable of teaching masters-level courses (Deochand

& Fuqua, 2016). For example, Cihon and colleagues (2016) found that only 30 of 1207 BCBAs living in the state of Texas obtained their doctoral level degree. At the time of the study in 2015-16, none reported that they were conducting research or teaching classes in ABA. This lack of BCBAs with a terminal degree directly impacts the amount of coursework offered; thus, the number of students who can enroll in master's level coursework is affected.

      Credential Cost. As previously mentioned, becoming a BCBA is costly—both monetarily and in time. Unfortunately, those seeking a BCBA credential in the clinical setting or education field may not have the means to obtain this endorsement without financial support. In the United States, the average teacher makes $58,230 a year, and the average BCaBA makes $65,826 a year (Fiorillo, 2020; Zip Recruiter, n.d.). Therefore, it would be challenging for an individual to attend school full time without other financial support (e.g., spouse, parents, inheritance) or obtaining high-interest loans. As a result, many seek this endorsement while still working, slowing the rate at which they can progress through their coursework, supervision, and studying.

      Lack of Monetary Incentive. Finally, within the context of the education setting—there is little to no monetary incentive to become a school-based BCBA. Although more public-school systems are employing BCBAs to work with special education and MTSS programming, many schools do not offer monetary incentives beyond regular coaches or support specialists. For example, in Alexandria, Virginia, schools can hire a BCBA as an 11-month employee on the behavior support team. However, those BCBAs receive equivalent pay as behavior specialists without their

credentials (Alexandria City Public Schools, 2021). Likewise, in Escambia County, Florida, BCBAs are hired on the instructional scale and paid equivalent pay as teachers. BCBAs receive compensation based on step (number of years of experience) and education level, despite the additional cost, time, and exams BCBAs must take to receive and maintain their credentials.

Beyond supplemental monetary funds, BCBAs within a school context do not hold much authority due to the organizational structure and educational laws. Therefore, BCBAs may find it frustrating to work in a setting as someone who offers support and advice yet does not formally serve in a supervisory capacity. The lack of power within a school could mean that the BCBA provides empirically-based support, adequate training, and resources, yet the teacher/support staff are not obligated to implement them. Therefore, the BCBA needs to establish a strong relationship with the supervising administrator and gain buy-in of the services to gain accountability support.

Overlaps and Gaps Among Roles

From an outside perspective, it can be challenging to understand various roles and responsibilities within a school system. Therefore, to determine overlaps and gaps between special educators, administrators, and behavior analyst training—professional standards are analyzed and matched for overlapping areas. Information from Table 3 (see below) is derived from the Council for Exceptional Children's Professional Ethics and Standards (2015), the SLS Study Companion: School Leaders Licensure Assessment (n.d.), and the Ethics Code for Behavior Analysts (2020).

Table 3

Overlaps and Gaps Between Roles

	Administrators	Special Educators	Behavior Analysts
Learner Development and Individual Differences (Cultural Responsiveness, Individual Needs)	Climate and Culture Leadership & Community Engagement Leadership	CEC Standard 1: Learner Development and Individual Differences	Section 1.07, 1.08& 1.09: Cultural Responsiveness and Diversity; Nondiscriminatory; & Personal Biases
Learning Environment	Organizational Leadership	CEC Standard 2: Learning Environments	Section 2.0: Responsibility in Practice
Curricular Content Knowledge	Instructional Leadership	CEC Standard 3: Curricular Content Knowledge	Section 1.05, 1.06, & 3.03: Practicing within Scope of Competence; Maintaining Competence; & Accepting Clients
Assessment	Instructional Leadership	CEC Standard 4: Assessment	Section 2.13: Selecting, Designing, and Implementing Assessments
Instructional Planning and Strategies	Strategic Leadership & Instructional Leadership	CEC Standard 5: Instructional Planning Strategies	Section 2.14: Selecting, Designing, and Implementing Behavior-Change Interventions
Professional Learning and Ethical Practice	Instructional Leadership & Ethical Leadership	CEC Standard 6: Professional Learning and Ethical Practice	Section 1-6: Entire Code

Collaboration	Community Engagement Leadership	CEC Standard 7: Collaboration	Section 2.10, 3.06 & 3.09: Collaborating with Colleagues; Consulting with Other Providers; & Communicating with Stakeholders

Note: Information from this table was derived from the Council for Exceptional Children's Professional Ethics and Standards (2015), the SLS Study Companion: School Leaders Licensure Assessment (n.d.), and the Ethics Code for Behavior Analysts (2020).

Overlaps

When comparing the three sets of standards, six major areas are consistent across all three roles. These overlaps include: (1) cultural responsiveness, (2) assessment, (3) planning and strategies, (4) professional learning, (5) ethical practice, and (6) collaboration. Although there are many areas of overlap, few of these are perfectly matched.

Cultural Responsiveness. Teachers' and administrators' standards have long included expectations for culturally responsive practice. However, the BACB recently updated the professional and ethical code for behavior analysts (which goes into effect on January 1, 2022). This new set of standards includes similar language as special education law and administrators' standards, such as describing things in language a family can understand, incorporating culturally relevant practices into interventions, and collaborating with the family.

Assessment. While standards for the three roles consistently mention the importance of assessment, similarities and differences exist. First, special education

teachers and administrators theoretically have similar training if the administrator was a teacher first. However, teachers are trained to examine data at a more granular, student level, and administrators are trained to disaggregate data at a macro-level. In terms of behavior analysts, most of the training is focused on behaviorally-based data rather than skill acquisition. Although this training can be more like that of a teacher (e.g., teaching letters of the alphabet systematically). Again, while all three sets of standards include assessment training, they do not necessarily speak the same language or examine assessments similarly.

Planning and Strategies. Along the same line as assessment, individuals across the three roles are expected to utilize assessment data (and various other data) to formulate a plan. For example, such a plan could be a lesson plan for a teacher, a school improvement plan for an administrator, or a behavior intervention plan for a behavior analyst. While comparisons can easily be made, there are also differences in what each plan addresses. For example, an education leader may write a plan to address school-wide behavior concerns. On the other hand, a behavior analyst would write a plan to target one student's particular behavior.

Professional Learning. Professional learning expectations is the most prominent area in which professional standards across the three roles converge. Depending upon the state, teachers and administrators engage in a required number of hours of PD to continually enhance their skillset. For example, in Virginia, teachers and administrators need 180 hours of professional development within their first five years. After five years, this decreases to 180 hours over ten years. To renew their certification, behavior analysts

must participate in 32 hours of continuing education credits every two years. In addition, the BACB outlines specific requirements for ethics, supervision, and general education credits (e.g., four hours of ethics, eight hours of supervision).

Ethical Practice. Standards ach across the three roles outline requirements for ethical expectations. However, these also vary in detail. For example, school administrators are expected to understand and model ethical behaviors. Yet, behavior analysts' ethical code outlines exact 'dos' and 'do nots,' such as guidance on mutual relationships, accepting gifts, and engaging with clients. Interestingly, some guidance for BCBAs working within a school setting is stricter than a standard professional working in a school system (e.g., following specific protocols and documenting parent communication). Further, BCBAs are expected to follow the policies of a school district and the BACB.

Collaboration. Finally, all three sets of standards note the importance of collaboration with other professionals. This standard is a critical area to note, especially for those just entering the field of education. If candidates are looking for a job where they work alone with full autonomy—education is the wrong field. Although collaboration is required for each role, there are power structures that often play between these three roles, creating a larger gap rather than overlap. For example, school-based administrators (e.g., principals) hold more power within their buildings than a consulting behavior analyst due to organizational structure. Therefore, if the principal disagrees with an intervention, they can supersede the behavior analyst's advice.

Gaps

As previously noted, overlaps between education leaders, behavior analysts, and special education teachers' responsibilities and standards exist. However, after further exploration and comparison, there are differences as well. This chapter addresses five predominant areas in which there was overlap yet leaves room for differences in approach, including: (1) needs of students with disabilities, (2) environments, (3) content knowledge, (4) laws, and (5) collaboration. These five areas are critical to examine because of the significance across all three roles.

Needs of SWDs. Special education teachers often have a complex understanding of their students. In part, this is due to the amount of time spent with the students, and the need to individualize instruction a engage in ongoing communication with all IEP team members. In addition, special education teachers are required to collect complex data in a variety of areas (e.g., academics, social-emotional, behavior, and functional skills; Kosnitsky, 2019). In a school setting, the second most knowledgeable role about the individual needs of SWDs are supporting behavior analysts or specialists. Often, supporting behavior analysts or specialists are filled by professionals who specialize in a particular area (e.g., ASD, ID, EBD). Finally, the least prepared member of the team to address SWDs is often administrators. As noted in the research and the preparation standards, little time is given to preparing administrators to support special education programming. In some states, administrators can even be appointed without any classroom experience, further limiting their understanding of how SWDs fits into the larger picture. For example, in the state of Florida, the only requirement to be a

superintendent is that the person must not be convicted of a felony or have been deemed

mentally incompetent (Treasure Coast Newspaper Editorial Board, 2018).

Environment. Along the same vein, teachers are often well equipped to establish

a conducive environment for learning. However, special education classrooms require

different structures and support than a general education classroom. Special education

classrooms should be based on the needs of the learners and the type of teaching that is

occurring (Anderson, 2010). For example, an early childhood classroom for students with

ID might appear to have many similar aspects to a general education classroom (e.g.,

bright visual supports, classroom library, play centers, carpet area), while a classroom for

students with visual impairments would be different (e.g., structured walking paths,

braille/sensory cues, high levels of contrast).

Behavior analysts trained in clinic or home settings may be out of their element in

a classroom setting. Often, behavior analysts are trained in more restrictive environments,

with less space, materials, or people. Therefore, it takes time and supervision to

understand how to apply behavior analytic practices in a classroom setting without

disrupting the "norms" of a classroom. Likewise, administrators are often unprepared to

understand the environmental needs of a classroom for SWDs. For example, in many

schools, self-contained classrooms designed for SWDs are often isolated in more remote

parts of the school and are often unvisited (Causton-Theoharis et al., 2011), exacerbating

the notion that SWDs are secondary citizens.

Content Knowledge. Across all three roles, content knowledge regarding SWDs

and curriculum is often lacking. Most special educators enter the workforce with a special

education degree. Therefore, teachers struggle to learn the nuances of the general education curriculum to break it down with specially designed instruction (SDI; Peterson, 2015). SDI is the practice of adapting instruction to meet the unique needs of a learner's disability which ensures access to the general education curriculum (Riccomini et al., 2017). Supervising administrators are often out of their wheelhouse when evaluating special education teachers, not having a foundational understanding of what should or should not occur. For example, without understanding basic reinforcement strategies, an administrator may question why a teacher provides a tangible reinforcer for a break that other students may not get. Moreover, behavior analysts are not trained in school curriculum. Some academic programs include programs such as *VB-MAP* or *ABLLS-R*. However, these programs do not always translate precisely to standards-based curriculum.

Law and Policies. Unfortunately, neither administrators nor behavior analysts are well versed in special education law and policies. This is not an expectation for behavior analysts if their initial training and supervision occurs outside of a school setting. As noted earlier, administrators often have little exposure to special education law (Haiyan & Martin, 2015; Macedonia, 2021). This lack of preparation is why school systems often provide LEA training to new administrators (Evans, 2019). However, there is still room to grow in terms of understanding issues such as restraint and seclusion, behavior management, and specially designed instruction among administrators (Bateman et al., 2015; March, 2019).

Collaboration. Even though all three professional roles are expected to collaborate, the standards do not prepare any of these three professionals to navigate uneven power dynamics. First, teachers often feel ownership and desire a level of control within their environment. As a result, it can be frustrating or threatening to be told to change systems and structures in place (ASCD, 2013). Second, behavior analysts are often taught and trained to be in a supervisory capacity, yet they act as a consultant within a school system. This leaves BCBAs in a position to make recommendations while not being able to hold anyone accountable for the plans set in place, as that it the responsibility of the LEA (i.e., education leaders; FindLaw, 2018).On the other hand, administrators hold power in a school hierarchy yet may understand the needs of SWDs the least. Therefore, education leaders must remain willing to listen, seek consultation, and share decision-making with their teachers and specialists to support SWDs adequately. Also, education leaders must understand the responsibilities of each practitioner to select the proper support for various issues. For example, if a student were struggling with reading, an education leader may seek input from practitioners such as a reading interventionist, general education teacher, school nurse (for vision), school psychologist, and special education teacher.

Resolving the Issues

Undeniably, COVID-19 resulted in abrupt change and many remaining questions, including how to compensate for lost learning (US Department of Education, 2021). It is unreasonable to assume that education professionals will be able to work through the systemic issues brought to light because of COVID (e.g., technology shortages, food

insecurity, teacher attrition) in a short period of time. However, it is reasonable to think

of a way to collaborate across these three silos to better support students. As of now,

there is a drastic imbalance between the contributions by special educators, the

recommendations made by behavior analysts, and the decision-making power that

administrators hold. However, students will significantly benefit if there is more

collaboration, open dialogue, and sharing of power between these three roles (Tibbetts &

Hector-Mason, 2015).

Like most organizational issues, inter-professional collaboration must begin with

leadership (Palady & Olyai, 2002). Administrators need to be willing to recognize this

area for growth and express a willingness to collaborate. It is recommended that

education leaders intentionally collaborate with behavior analysts and teachers to directly

support personnel's work in the classrooms. If personnel feel supported in what they are

doing (with proper resources, professional development, and time), then the needs of the

students can be better met (Martin et al., 2018).

Coincidentally, if school professionals improve the ability to meet the needs of

SWDs, they will also be better at meeting the needs of families. The reputation and

meaning behind everything a school does is only as good as how the community it serves

feels about it. Therefore, schools must work internally to improve their collaboration to

better support students and families. Theoretically, this could be done in a variety of

ways. As noted in Table 4, (a) behavior analysts, education leaders, and teachers could

utilize OBM to improve support personnel performance, (b) utilize ABA to improve

parent implementation, and (c) utilize ABA to improve student performance. Within

these three lanes of collaboration, there are also multiple behaviors that can be targeted

for intervention (see Table 4).

Table 4

Examples of ABA Application Within Schools

	Target Population	Example Skills
A	Education Support Staff/Personnel	• Fidelity of Implementation • Positive Praise • Attendance • Inter-Response Time • Data Collection Accuracy
B	Parents	• Positive Praise • Toileting Protocols • Choice Boards • Requesting • Prompting strategies
C	Students	• Remaining in location • Work Completion • Raising hand • Transitioning • Social Skills

Note: This table displays opportunities in which researchers can explore different applications of ABA within a school setting beyond problematic behaviors displayed by SWDs.

Considering there are multiple avenues to go about this collaboration, it is

essential that researchers utilize these concepts in an applied manner which is response to

the school's needs. For example, if comparing two elementary schools within the same

district, one school may have issues with staff attendance, while another may not have

that issue at all. Therefore, researchers should target behaviors or skills for intervention

that are relevant to that environment. Ultimately, it is the responsibility of these three

practitioners (education leaders, special education teachers, and behavior analysts) to collaboratively work together to meet the needs of the students and families they serve.

To examine these assertions more closely, the following study began by exploring the use of ABA with ESPs relative to their positive reinforcement. Considering there was a prevalent amount of research targeting positive reinforcement given in a school setting already, this population and behavior created an opportunity to further this research from the lens of OBM. Addressing an ESPs behavior allowed for both the use of collaboration among education leaders, special education teachers, and behavior analysts in addition to using OBM. Furthermore, working with this population of participants allowed for the researchers to examine the social validity of an OBM approach in a school as well as the residual impact on student performance.

Chapter Three: Methodology

As previously discussed, schools are legally obligated to provide SWDs support and services that are outlined in their IEP within their LRE (IDEA, 2004). With that said, it is also an expectation that schools evolve their services to use evidence-based tools and approaches with students (The IRIS Center, 2014). Additionally, administrators, behavior analysts, and teachers are ethically required to support students using socially acceptable practices (Council for Exceptional Children's Professional Ethics and Standards, 2015; Professional Standards for Educational Leaders, 2015; The Ethics Code for Behavior Analysts, 2020). Previously reviewed literature also indicated the importance of positive reinforcement and teaching replacement behaviors (Adamson et al., 2015). However, the unfortunate reality is that positive reinforcement is not used as effectively as it could be (e.g., after providing error correction to a student and then following it with positive reinforcement when the replacement behavior is demonstrated; Larriba-Quest, 2017). Therefore, the purpose of this study was to examine the implications of organizational behavior management techniques, used by administrators, behavior analysts, and teachers within the public-school context. As noted in the previous chapters, OBM is the application of ABA concepts within the workplace environment (Ludwig, 2015).

To apply OBM within the scope of this research, a team comprised of an administrator (the school's Administrator on Special Assignment), behavior analyst (the school's assigned BCBA), and teachers (all classroom teachers, who serve as both the general and special education teacher) used ABA strategies to increase the amount of

positive praise provided by ESPs to SWDs. ESPs (Education Support Professionals)

consist of non-instructional personnel members (e.g., Instructional Behavior Assistants,

Behavior Technicians, Clerks, Secretaries, Custodians). Figure 7 illustrates the

collaborative use of ABA by these three stakeholders on ESPs; therefore better-

supporting students. Considering the team was implementing these strategies on other

personnel members within the workplace, this meets the definition of OBM. In addition,

this figure is also represented in a non-traditional manner, which puts leaders at the

bottom and students at the top. The purpose of this placement is to emphasize the

importance of keeping students at the forefront of decision-making.
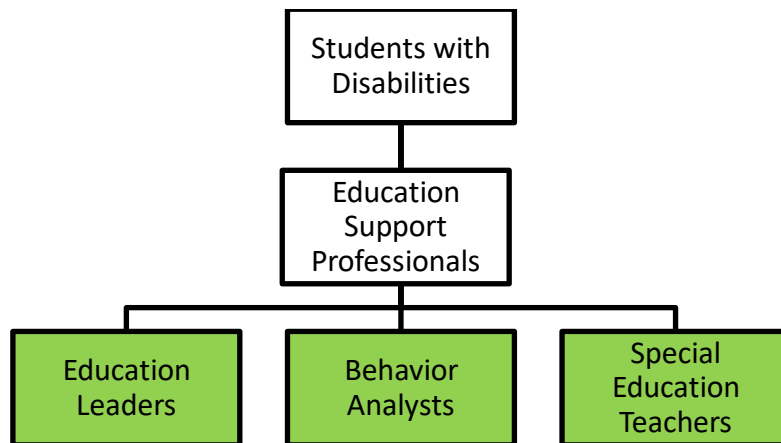
*Note: This visual is representative of the collaborative use of organizational behavior
management among administrators, behavior analysts, and teachers (green) at the
ground level to change the behavior of education support professionals, thus better
supporting students.*

Figure 7

Collaboratively using OBM to Support Students

To address the purpose of the study, the following research questions were investigated:

1. Will the use of a behavior analytic intervention package delivered by administrators, behavior analysts, and teachers that consists of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback, increase ESP's verbal praise?

2. Will the use of this intervention decrease student discipline referrals?

3. Do ESPs find this intervention package to be socially significant?

Within this section, discussion includes the proposed: (a) sampling procedures, (b) setting, (c) independent variable, (d) dependent variable, (e) design, (f) procedures, (g) materials, (h) interobserver agreement, (i) procedural reliability, (j) social validity, (k) data analysis, (l) limitations, and (m) anticipated results.

Setting

A research setting refers to the physical, social, and cultural context in which the research study takes place (Girvan, 2008). To address the first research question, the research setting was required to have a behavior analyst that works within the school consistently. This was necessary because of the collaborative nature of the study. Considering most general education settings do not have a full-time behavior analyst (ABA Degree Programs, 2021), a school was selected that only serves SWDs and had a full-time BCBA.

School District

The setting for this experiment was situated along the gulf shores in the southeastern United States. Gulf Shores School District (GSSD) [Pseudonym] is a large suburban school district with approximately 39,500 students (National Center for Education Statistics, 2021). GSSD was comprised of seven high schools, nine middle schools, thirty-two elementary schools, and seventeen alternative school options (GSSD, n.d.). The county reported approximately 313,500 residents, out of which 64% identified as white, 22% identified as Black, 6% identified as Hispanic, 3% identified as Asian, and 5% identified as two or more races. In addition, 94% of families spoke English only, while only 2.1% reported not speaking English well. Out of the residents with children in the public school system, households reported a median income of $57,729 a year, with 81.3% reporting employment. Approximately 24% reported one person had a bachelor's degree at home, while 39.9% reported having some college or an associate degree. Also, 57.8% of families lived in houses, and 42.2% of families lived in apartment-style homes. In terms of composition, 55% of student families were married couples, 30% were female-run households, 9% were cohabitating couples, and 6% were male-run households. In terms of resources, 83% of families reported having reliable access to the internet, and 94.1% reported having health insurance. Finally, 8.2% of families reported a disability within the household, 27% of families received food stamps, and 19% of families fell below the poverty line (National Center for Education Statistics, 2021).

Approximately 6,400 students (16%) were identified as having a disability and received Exceptional Student Education (ESE; also known as Special Education) services

within the school district. ESE services within GSSD encompassed all 13 disability

categories (e.g., Autism Spectrum Disorder, Intellectual Disabilities, Gifted, Emotional

and Behavioral Disabilities) and gifted students ranging from pre-kindergarten to the age

of 22. The school district provided a continuum of services ranging from small

increments of time delivered in the general education setting (e.g., 30 minutes a day of

reading) to highly restrictive settings with all instruction and special education services

provided throughout the instructional day (e.g., typical school hours such as 7:15 a.m. to

1:15 p.m.) within that setting. Additionally, the school could deliver homebound or

hospital services. According to IDEA's (2004) requirements for LRE, students were

required to receive their education (a) alongside their peers to the maximum extent

appropriate and (b) not be removed from general education unless learning cannot be

achieved without additional supports (IRIS Center, n.d.). Therefore, if the general

education setting was the least restrictive setting (see Figure 8), schools for SWDs only

were more restrictive according to the continuum.
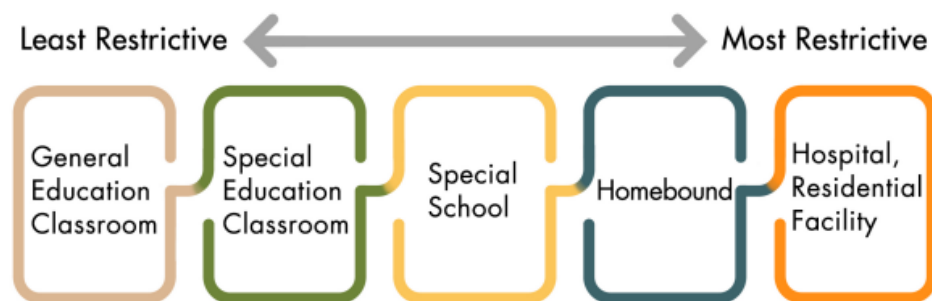
Note: This image demonstrates the continuum of placements for services for SWDs as prescribed in IDEA (2004; IRIS Center, n.d.).

Figure 8

Continuum of Services

Two schools within this district were characterized as highly restrictive settings: West Sanctuary [Pseudonym] and South Harbor [Pseudonym]. Within GSSD, these were the most restrictive settings that students attend before homebound instruction or hospitalization. This meant that students attending West Sanctuary had not experienced success in their home public school (their zoned school that they were assigned to based on their place of residence), therefore, were they referred to West Sanctuary to receive more intensive, individualized instruction in a restrictive environment. West Sanctuary offered services to students with significant cognitive disabilities who were typically diagnosed with ASD or ID. South Harbor, on the other hand, offered services to students with EBD and/or major mental health diagnoses. South Harbor served as an ideal setting for this study, as it serviced SWDs and has a full-time BCBA.

South Harbor

As previously mentioned, South Harbor was an entity of the GSSD public school system, providing intensive support and services to students throughout the school day as prescribed by their IEP. The mission of the program was to:

Develop and implement individual and therapeutic educational programs for all of our students. We offer strategic interventions to help each student achieve their own "personal best" academically, socially, and behaviorally. We offer refuge to students and families when they are encountering emotional and mental health challenges that interfere with their school progress. We work collaboratively in a holistic approach to help students see smooth sailing in their futures. (South Harbor, 2021).

Referral Process. To attend the program, the IEP team must convene to review current academic and behavioral data and determine that the student was not currently being served in their LRE. For example, a student may be referred to South Harbor if the school district has attempted multiple interventions, attempted to implement a BIP, and the student's behavior continued to interfere with their own learning or the learning of others.

Prior to this step, however, the school district must exhaust resources and interventions through the MTSS system. According to the MTSS system, an MTSS team (e.g., administrator, general education teacher, special education teacher, parent, and other supporting specialists) would first meet to review existing data and attempt Tier II interventions (e.g., small group instruction, online interventions, basic behavior plan).

Next, the MTSS team would reconvene after a prescribed amount of time to determine if the intervention was working. If not, the team could decide to change the intervention or increase the rigor of the intervention. Finally, after further review of data the MTSS team may then determine that the level of services required for the child to be successful are not feasible within that setting. This process typically includes placing the student in an EBD self-contained classroom within a public school (a self-contained classroom designed for students with EBD who have behaviors). The purpose of an EBD self-continued classroom was to provide similar intensive support and services within the public-school setting, allowing for access to general education peers when appropriate. For example, a student in an EBD self-contained classroom within a school may spend most of their day in the special education setting, yet still have access to periods of the day such as lunch, recess, and specials (e.g., physical education, art, music) with their peers of the same age. A student's level of access is determined by their behavior that is directly correlated to an incentive-based behavior management system. For example, a student who has met behavioral expectations for multiple weeks (or longer) may have had the ability to go to a homeroom and participate in activities in the general education setting. Whereas a student who had a large crisis within the school setting may lose access to parts of the day (e.g., the class where the crisis happened) or possibly all access to the general education setting depending upon the severity of the crisis.

South Harbor Personnel. In response to a growing population of students and strain on financial resources, GSSD moved the EBD program to a renovated building for the 2021-2022 school year. In addition to an environmental change, personnel were

increased to include additional behavior technicians, a reading interventionist, two more

instructional behavior assistants (IBAs;), and a full-time administrator on special

assignment (AOSA). A behavior technician is a non-instructional personnel member that

floats throughout the building to help manage student behaviors and provide breaks. An

instructional behavior assistant is a non-instructional personnel member that is assigned

to a classroom full-time to assist with student behaviors and classroom procedures. An

AOSA is equivalent to a principal or assistant principal (depending upon the structure of

the school). However, the school system hired these positions using a formula, based on

how many students attend the school. Considering South Harbor did not have enough

students to warrant either of these positions based upon this formula, the school district

hired an AOSA. Along with typical school personnel and part-time supporting related

service providers (e.g., speech-language therapists, occupational therapists, physical

therapists), the program employed an assigned BCBA. The BCBA spent 100% of their

schedule at South Harbor with five contracted mental health counselors from a nearby

hospital. The purpose of these counselors was to infuse ongoing therapeutic support

through counseling services and encourage daily social-emotional learning among

students. For example, all students enrolled in the program had a minimum of 30-minutes

of individual counseling and 30-minutes of group counseling per week. Lastly, the school

explicitly addressed each student's academic, social-emotional, communication,

independence skills, and health requirements outlined in their IEP.

      Environment. In terms of the program structure, as of October 1, 2021, there

were 34 students enrolled, K-12. Due to confidentiality and constant fluctuation in the

student population, demographic data were not available to the public. Due to the intensity of support for each student (e.g., providing daily point sheets which measure eight of the student's behaviors across every 30-minute interval of the school day) the program required a consistent one-to-three student-to-teacher ratio. Each classroom was equipped with one teacher and two IBAs. Behavior technicians supported throughout the building based upon need. For example, if a student displayed anxiety from an assignment, they could request a break away from the task to help regulate their emotions. Elementary and high school students were separated between two buildings connected by a contained breezeway. All entrances/exits and gates required swipe badges to enter/egress to move throughout the facility. In addition, the perimeter of the campus was always secured with a locked, six-foot fence.

If students became aggressive (e.g., flipping a desk, throwing a chair) or displayed ongoing disruptive behaviors (e.g., screaming, destroying school property), personnel removed the student from the classroom using *Safety Care Training* and escorted them to one of four calming rooms. Calming rooms are empty, padded rooms approximately 50-60 square feet large. The purpose of this room was to separate a potentially aggressive student from others while being with one to two personnel members. Before changes in Florida law, the program utilized seclusion rooms for severe behavioral issues. Seclusion rooms are the equivalent to a calm down room with the acceptance that students were isolated and locked in the room alone until calm. Once in a calming room, crisis teams were trained in de-escalation techniques and *Safety Care Behavioral Safety Training* (Quality Behavioral Solutions Incorporated, 2017). If student behaviors escalated to the

point of intensity beyond adult control (e.g., the student is unable to be safely restrained)

or sustain for a prolonged amount of time (e.g., the behavior has lasted for over an hour),

additional intervention could be provided by the local police department upon

administrator request (e.g., a police officer may put the student in handcuffs). Deputy

Sheriffs provided ongoing support to the campus for both incidents of battery to

personnel or if a Licensed Mental Health Counselor (LMHC) petitioned to enact the

Florida Mental Health Act (2018; also known as the Baker Act). If a counselor at South

Harbor initiated the Baker Act process, students were escorted via police transport to the

Acute Stabilization Unit on the hospital campus for further evaluation. The Baker Act

allowed the involuntary examination (and institutionalization), which can be initiated by

mental health professionals, physicians, law enforcement, and judges (Florida

Department of Children and Families, 2002).

Sampling Procedures

Sampling procedures refer to the process of selecting participants who will be

studied throughout a research project (Turner, 2020). There are two different forms of

sampling procedures, which include non-probability and probability (Albert et al., 2010).

Nonprobability samples are utilized in instances when every member of the population

does not have an equal opportunity to participate (Turner, 2020). In terms of non-

probability samples, there are five primary sampling techniques: convenience, snowball,

purposive, quota, and self-selection (Galloway, 2005). The participants for this study

were selected using purposive convenience sampling. Purposive convenience sampling is

the strategic selection of participants that are conveniently accessible to the researcher (Andrade, 2021).

I (the primary investigator) am one of the school-based administrators at South Harbor. As noted in Figure 6 below, the school personnel included seven full-time teachers and 14 education support personnel (ESP; e.g., instructional behavior assistants, behavior technicians, secretary). In addition, there were 14 vacancies (three teachers, 11 ESPs) that we hoped to fill during the school year. To control potential attrition, five ESP participants were selected to participate in the study. Anecdotal observations indicated that ESPs did not consistently utilize positive reinforcement to influence student behavior. Therefore, this organizational structure (see Figure 9) created the ideal condition for administrators, behavior analysts, and teachers to utilize OBM with ESPs to increase their rate of positive reinforcement in the classroom.

```
          ┌─────────────────────┐
          │   Students with     │
          │ Disabilities (34)   │
          └─────────────────────┘
          ┌─────────────────────┐
          │ Education Support   │
          │ Professionals (14)  │
          └─────────────────────┘
    ┌──────────┐  ┌──────────┐  ┌──────────────┐
    │ Education│  │ Behavior │  │Special       │
    │ Leaders  │  │ Analysts │  │Education     │
    │   (2)    │  │   (2)    │  │Teachers (7)  │
    └──────────┘  └──────────┘  └──────────────┘
```
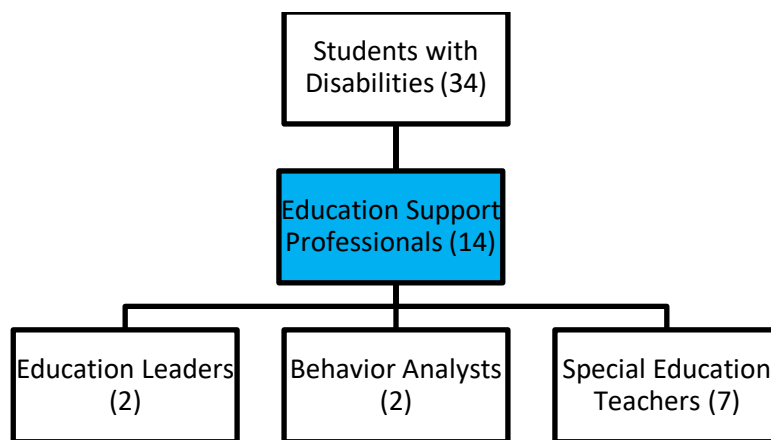
Note: This figure is adapted from Figure 7 to include the number of personnel in each position, as well as highlighting who the targeted participants are.

Figure 9

Personnel Sampling Pool

Inclusion Criteria

The researcher used the following participant inclusion criteria in this study:

- Participants had a baseline average of positive praise being given in less than 50% of opportunities within a ten-minute period. As previously noted, the intention of this study was to increase the amount of positive reinforcement. Therefore, it was both socially significant to choose those with lower rates of praise, as well as demonstrate a larger impact on their behavior.

- Participants were required to be full-time employees at South Harbor. This requirement was essential to allow for random classroom observations daily.

- Participants were required to be classified as an ESP (e.g., instructional behavior assistant, behavior technician, clerk, or secretary). ESPs directly supported the teachers within the classroom and represent over 50% of the personnel. In addition, ESPs had more direct contact with students than any other personnel members in the building. To be hired, ESPs were required to be a minimum of 18 years old.

Recruitment Script

The researcher used the following script to approach potential participants who met the criteria outlined above.

[Participant Name],

I was wondering if you would be interested in being a participant in my dissertation research project. The purpose of my research is to look at the effects of applied behavior analysis (ABA) in the workplace used with adults rather than students. If you are willing to participate, you would be asked to complete two surveys (total of 20-25 minutes), participate in a 15-minute training during school-wide planning time, and would be observed every day for up to 5 minutes by either myself and/or Kristen (BCBA) for as many as eight weeks. The total estimated time to participate in this research could be as long as four hours over the course of eight weeks; however, only three hours and forty-five minutes would be beyond your typical job expectations. If you choose to participate you may earn a 50 dollar gift card for participating and could earn smaller incentives throughout the study (e.g., T-shirt, 5 dollar gift card).

Informed Consent

The study was submitted for approval to the Institutional Research Board (IRB) at the university (IRBNet Number: 1826422-1) and submitted to Escambia County School District for review. Once approved by both entities, the participants were provided a consent form, consenting to participate in the study. The consent process included information regarding the primary purposes, benefits, risks, confidentiality, contact information, and the ability to withdraw from the study at any time. Also, to maintain confidentiality, the participants were assigned a culturally appropriate pseudonym to disseminate information.

Participants

During baseline data collection, all participants were asked to complete a *Google Form* which includes two different sets of questions (see Appendix C). First, participants were asked to provide demographic information (e.g., age range, education, ethnicity). The researcher used this information to obtain background information on the participants (Allen, 2017). Second, participants completed a preference assessment that included questions regarding how they prefer to receive feedback (e.g., in writing or verbally), where they preferred to receive feedback (e.g., in the classroom right away, in private away from colleagues), as well as preferred reinforcers such as gift cards, goose passes (i.e., a pass that allows personnel to leave work early) and other identified incentives. This survey was expected to take 10-15 minutes to complete. The survey was administered via email, and participants were asked to complete the survey within three business days.

Demographic survey results indicated that participants ranged from 18 to over 55 years old. Out of the five participants, one identified as male, and four identified as female. Four of the five participants identified as Black or African American, and one identified as White. None of the participants are of Hispanic or Latino ethnicity. Three participants reported having some college, one had an associate's degree, and one had a master's degree. Participants ranged in having anywhere from less than a year to over 35 years in the field of education. Finally, one staff member was a behavior technician, and four were instructional behavior assistants.

Preference assessment data indicated that 80% preferred emailed feedback and 20% preferred face-to-face feedback. If given face-to-face feedback, 80% preferred feedback in an office space while 20% preferred in a classroom setting. All of the participants reported feeling neutral about how often they preferred to receive feedback. Sixty percent reported that they preferred feedback within two to three days, while 40% reported they preferred to receive feedback the same day. No one reported a desire to receive immediate feedback. Additionally, 100% of the participants stated a preference for private feedback. Out of the three motivations offered (i.e., leaving work early, tangible items, and praise from peers and supervisors), 100% of participants ranked praise from peers and supervisors as the highest preferred motivator.

Charsey

Charsey identified as a female within the 18-24-year-old age range. Also, Charsey identified as Black or African American and not of Hispanic or Latino ethnicity. She had an associated degree with less than a year in the school setting, working as a behavior technician. She reported preferences of receiving feedback via email, in an office space, and was neutral regarding the frequency of feedback. In ranking her preferred reinforcers, she noted leaving work early and the ability to leave campus for lunch as her highest priority. Finally, she also noted a preference for private, one-on-one feedback, the same day as the observation.

Sara

Sara identified as a female within the over 55-years old age range. Also, Sara identified as Black or African American and not of Hispanic or Latino ethnicity. She had

some college experience with over 25 years in the school setting working as an instructional behavior assistant. Sara reported preferences of receiving face-to-face feedback, in an office space, and was neutral regarding the frequency of feedback. She also prioritized praise as her biggest motivator. Additionally, she also noted a preference for private, one-on-one feedback, the same day as the observation.

Jack

Jack identified as a male within the 25-30-year-old age range. Also, Jack identified as Black or African American and not of Hispanic or Latino ethnicity. He reported some college experience with four years in the school setting, working as an instructional behavior assistant. Jack reported preferences for receiving feedback via email, in an office space, and was neutral regarding the frequency of feedback. When ranking items of preference, Jack identified tangible items such as gift cards and school gear as the biggest motivator. He noted a preference for private, one-on-one feedback, and within two-to-three days after the observation as well.

Tina

Tina identified as a female within the 31-35-year-old age range. Also, Tina identified as Black or African American and not of Hispanic or Latino ethnicity. She had some college experience with 11 years in the school setting, working as an instructional behavior assistant. She reported preferences of receiving feedback via email, in the classroom setting, and was neutral regarding the frequency of feedback. When ranking items of preference, Tina identified tangible items such as gift cards and school gear as

the biggest motivator. Also, she also noted a preference for private, one-on-one feedback, the same day as the observation.

Erin

Erin identified as a female within the 41-45-year-old age range. Erin identified as white and not of Hispanic or Latino ethnicity. Erin had a master's degree with 17 years in the school setting, working as an instructional behavior assistant. She reported preferences of receiving feedback via email, in an office space, and was neutral regarding the frequency of feedback. She noted a preference for private, one-on-one feedback, within two-to-three days after the observation. Erin reported praise from her supervisors and peers to be her biggest motivator.

Dependent Variable

A dependent variable refers to the concept or characteristic researchers intend to change throughout the research (McMillan, 2016). The dependent variable for this study is the percentage of positive praise provided within ten opportunities to provide feedback. An operational definition "indicates how the concept is measured or manipulated" (McMillan, 2016). Specific to a behavior, this definition would include what the observed would observe the participant perform, or do (Cooper et al., 2020). Positive praise was defined as providing verbal or physical behaviors that indicate the learner did something accurately. Examples included statements (e.g., "I like how focused you are!"), actions (e.g., thumbs up, high-fives, pat on the back), providing access to items (e.g., giving them toys, stickers) or providing students with an earned break (e.g., going to the motor room, playing a game together). Nonexamples included providing corrective feedback (e.g.,

"you should have," or "next time you should try") or providing feedback in the form of a

reprimand (e.g., "No," or "How many times have I told you?"). This behavior was

targeted for this study due to: (a) ethical and legal requirements (e.g., BACB requires

behavior analysts to prioritize positive reinforcement; Ethics for Behavior Analysts,

2020), (b) reports of low morale and job satisfaction (e.g., personnel taking on extra

duties and not feeling recognized for it; Craig, 2017), and (c) high numbers of student

discipline referrals (e.g., low student praise resulting in student outbursts; Markelz &

Taylor, 2016).

Requirements of Positive Praise

First, as previously mentioned, BCBAs are bound to a code of ethics. Section 2.14

under *Responsibility of Practice* states that behavior-change interventions should

"prioritize positive reinforcement procedures" (Ethics Code for Behavior Analysts, 2020,

p. 12). This effort directly aligned with the literature which indicates long-term benefits

of positive reinforcement vs. punishment procedures (e.g., student earning a break for

completing their work as opposed to losing recess for not finishing it) as well as an

emphasis on dignity and respect shown to students (Kelly & Barnes-Holmes, 2014; The

Ethics Code for Behavior Analysts, 2020). Additionally, from the school perspective,

South Harbor was legally required to provide the services outlined in each student's IEP

such as counseling and academic support. All students within this setting have the

accommodation of a BIP. BIPs are collaboratively constructed on the premise of teaching

functionally equivalent replacement behaviors and utilizing positive reinforcement to do

so (Sheuermann & Hall, 2016). Therefore, if ESPs were not providing high rates of

positive reinforcement to students, BIPs were not likely to be carried out with fidelity

(i.e., they are grounded in positive behavioral supports).

Morale

Morale is defined as "the feelings of enthusiasm and loyalty that a person has

about a task or job" (Merriam-Webster, n.d.). According to Craig (2017), maintaining

positive employee morale and mental health benefits any business. Unfortunately, like

many school districts across the country, GSSD started the 2021-2022 school year

struggling to adequately fill all positions. The school district began the year with over

100 school bus driver vacancies (Arnold, 2021). After the first quarter of the year, the

district continued to seek qualified security, health technicians, substitutes, custodians,

food services workers, among other critical positions. At South Harbor alone, there were

15 vacancies as of December 1, 2021: three teachers, eight instructional behavior

assistants, one behavior technician, and three mental health counselors. Although the

school's personnel allocation included 49 positions, the program was only 69% staffed.

This deficit required existing personnel to pick up additional work or experience

inconveniences. For example, personnel regularly skipped their scheduled lunch break

because the classroom was below the required ratio. Considering ESPs made up over

50% of the personnel, it was essential to rebuild morale and create a positive atmosphere.

In response to complaints and the general environment (e.g., personnel making

statements such as "this year sucks," and personnel noting the general negativity), the

administration conducted a survey to understand the current climate half-way through the

first quarter. Survey results indicate 33% of personnel feeling unsatisfied, 28% feeling

neutral, and 39% feeling satisfied with their work environment. When asked to identify a

barrier, personnel noted issues with "not having enough personnel to keep everyone

safe," low "staff attendance," and "extremely low" morale. In addition to these

comments, respondents noted frustration with a lack of incentive for those who come to

work. Finally, results elaborated on feelings of being "overworked," as some personnel

members are unable to take lunches to cover classrooms consistently or are unable to

fulfill the requirements of their job due to getting pulled to cover other classes. These

disruptions created inconsistencies with service delivery and an increase in student

behavioral referrals. To address low morale, researchers utilized positive reinforcement to

increase rates of positive reinforcement to students, creating an overall praise-centric

atmosphere (Dickinson, 2018).

Student Discipline Referrals

In conjunction with survey results, the district Superintendent tasked each

building administrator (including alternative programs) to identify three to five metrics

that will be publicly reported each week. In an attempt to address both morale and student

discipline referrals, the administration identified the need to re-launch *Safety Care*

training, which teaches multiple de-escalation strategies, crisis management, and more

importantly, the fundamentals of reinforcement (Quality Behavioral Solutions

Incorporated, 2017).

It is also important to note that de-escalation literature and training suggests that

the way in which personnel respond to a student's behavior directly impacts the trajectory

of that potential crisis (Crisis Prevention Institute, 2020). For example, if a student is

angry and an ESP yells at them, it may further escalate the situation. The CPI "Integrated Experience" (see Figure 10) represents the need for all school personnel to either match a student on the level that they are displaying or utilize strategies on a lower level (i.e., asking the student if they need help, talking calmly) than the students are displaying. For example, if a student is displaying defensive levels of behavior (number 2 on Figure 10) such as talking back to personnel, the personnel member could respond by using least-to-most restrictive prompting (number 1 on Figure 10) by using the least intrusive amount of prompting and systematically building to more restrictive levels of prompting (Cooper et al., 2020). If utilizing this model, the personnel would begin by providing with a supportive response (e.g., offering help, giving them space, or presenting a helpful prompt). If those lower-level strategies did not produce the desired response (e.g., the student begins to yell profanity at them), then the person may move to more directive statements (e.g., instead of "Please stop talking to me like that, it hurts my feelings" to "Stop talking." or "Do not curse at me."). Consequently, if personnel shape their approach to behaviors in a more positive way, behaviors may be prevented or deescalated, resulting in lower numbers of referrals.

The CPI Crisis Development Model SM

Integrated Experience

Crisis Development Student Behavior Level	Staff Attitude & Positive Behavioral Approach
1. Anxiety	1. Supportive
2. Defensive	2. Directive
3. Acting Out Person	3. Nonviolent Physical Crisis Intervention
4. Tension Reduction	4. Therapeutic Rapport
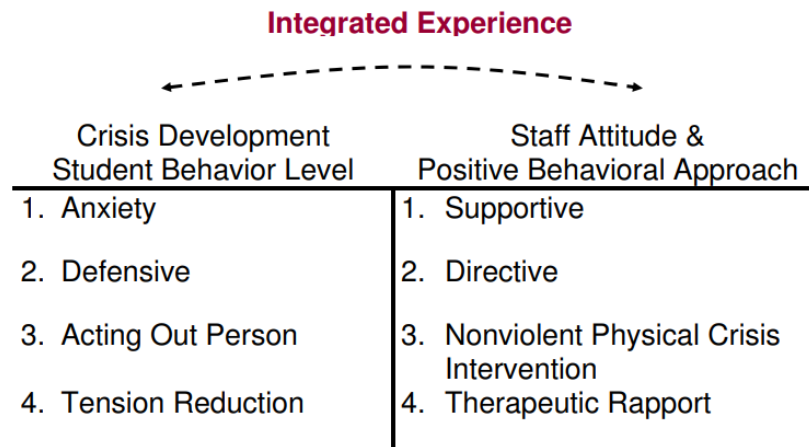
To Promote the Best Care, Welfare, Safety and Security for ALL

Note: The Integrate Experience *was derived from CPI training (Nonviolent Crisis Intervention, n.d.).*

Figure 10

The CPI Crisis Development Model

Independent Variable

An independent variable refers to the item(s) or actions(s) that presume a difference in the dependent variable (McMillan, 2016). For example, if a researcher wanted to determine if reading to your child every night before bed increases reading comprehension; comprehension would be the dependent variable (the thing you want to change) and reading before bed would be the independent variable (the action influencing the change). The independent variable for this study included an intervention package consisting of: (a) positive reinforcement in the form of social praise, (b) the use of a

token economy system, and (c) the use of visual feedback. Processes and procedures will be expanded on page 105. Additionally, as noted in Figure 7 on page 78, the implementation of this intervention package by administrators, behavior analysts, and teachers on ESPs was a direct application of collaboration and OBM.

Positive Reinforcement

First, ABA literature has repeatedly shown that positive reinforcement is an empirically based tool to help make sustained behavior change (Cooper et al., 2020). Therefore, participants received positive social reinforcement from the administrator, behavior analyst, or teacher (e.g., verbal and written positive praise) in a manner that was motivating to them based upon a preference assessment. A preference assessment is a tool used to guide practitioners in providing reinforcers that are motivating to the participant with the intention of increasing a behavior in a learner's repertoire (Chazin & Ledford, 2016). Positive reinforcement was provided to each participant at the end of the workday, daily during the intervention phase.

Token Economy System

Second, the preference assessment identified highly reinforcing items to the participants. For example, participants selected things such as opportunities to leave work 30 minutes early, extended lunch coverage, or receive small monetary-based rewards (e.g., coffee, gift card). For increasing known behavior such as completing reports on time, a differential reinforcement of higher rates of behavior (DRH) protocol was followed. A DRH procedure entails providing reinforcement after a prescribed amount of time/number of times whereby the behavior occurred at or above the designated amount

(McDuff et al., 2019). Next, the researcher selected a schedule of reinforcement (how often or how many times are required to receive the reinforcement; Scheuermann & Hall, 2016). A variable ratio (VR) schedule was used in this study. A VR schedule is set to an average number of instances, varying around that number (Mayer et al., 2014). VR schedules are beneficial when a participant does not know exactly when the reinforcement will be provided, increasing the likelihood that there will be a delay after reinforcement or that the reinforcement schedule will get predictable (Lim, 2020). To mirror the work-week schedule closely, a VR5 schedule was used, meaning that reinforcement will be provided every four to six times the participant hits the prescribed amount. After the completion of the fifth participant's intervention phase, the schedule of reinforcement began to fade, increasing by one (e.g., VR6, VR7, VR8) each time they successfully earned reinforcement.

Visual Feedback

Finally, the researcher graphed participant data (i.e., input each participants percentage into the spreadsheet and generate a line graph) daily for two purposes. First, the researcher primarily relied on visual analysis to monitor participants' rate of positive praise. Second, these graphs were used to provide feedback to the participant at the end of the workday to determine if they met the criteria for that session or not. According to Daniels (2016), giving feedback to personnel should be supported with visual aids, typically in work samples and graphs. He states that graphs are useful for several reasons, which include:

1. Graphs illustrate progress faster than analyzing data or hearing data presented verbally.

2. Graphs allow the personnel to assess where they are versus where they started quickly.

3. Graphs are particularly useful for setting goals with the personnel.

Therefore, it was essential to set goals together to give the personnel ownership of their work and ensure that their goals are obtainable (Daniels, 2016).

Design

A research design refers to the overall strategy utilized by a researcher(s) to answer the research questions (Kireshenblatt-Gimblett, 2006). According to Moore and Cooper (2003), there are four domains of behavior analysis. The first domain, ABA, requires that research be: (a) applied, (b) socially significant, (c) conducted in the natural environment, (d) focused on humans, (e) aligned with the seven dimensions of ABA, and (f) develop technologies for practitioners (Moore & Cooper, 2003). The term applied refers to the application of ABA concepts in the natural environment with people (Gilmore, 2019). Therefore, a single case research design was used due to the applied nature of this study (Ledford & Gast, 2018). Single case research methods include a variety of designs such as multiple baselines, withdrawal, reversal, change in criterion, and comparison designs (Ledford & Gast, 2018). The research team intended to determine if there is a functional relation between the intervention package and verbal praise. A functional relation "refers to the effect of an independent variable on a

dependent variable" (Wacker et al., 2005). Therefore, a multiple baseline design (MBD) was used.

A MBD across participants (see Figure 11) allows researchers to examine the same behavior across multiple participants while an intervention is systematically introduced, thus, testing for a functional relation (Cooper et al., 2020; Ledford & Gast, 2018). In this case a MBD across participants examined the behavior of providing positive praise across four to five ESPs. MBDs are commonly used because they are highly flexible, with multiple variations (Runyon & Meller, 2018). For example, researchers could examine multiple behaviors of one participant, multiple settings, or use combinations of these (e.g., the same person, multiple behaviors across multiple settings).

MBDs require that data be collected concurrently; although, the intervention phases should be staggered (Cooper et al., 2020). For example, participants are introduced to the treatment phase systematically, never at the same time. Additionally, MBD allows researchers to visually interpret baseline logic (i.e., prediction, verification, and replication) and evaluate for generalization. In short, this means researchers can use visual analysis to make predictions as to what would happen if a variable were changed, verify their predictions, and demonstrate replications across behaviors, settings, or participants. Figure 11 displays a basic example of a MBD that could be used for multiple participants, settings, or behaviors.
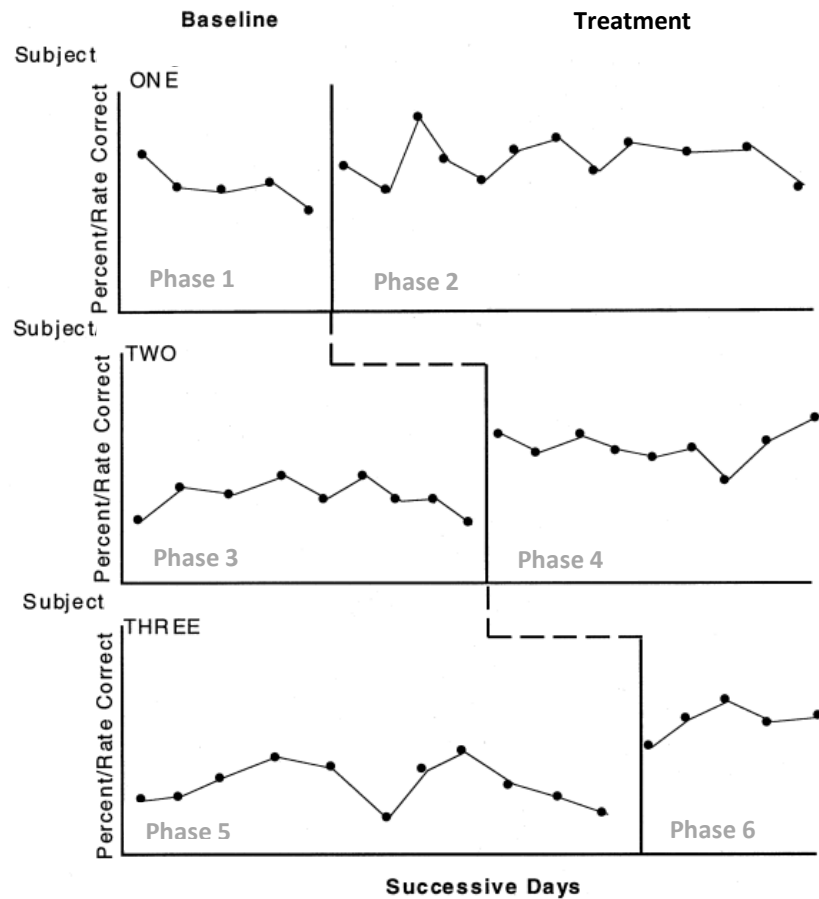
Note: This image represents an example of a MBD, displaying its use of comparing a single behavior across multiple participants (Thurlow et al., 2000). In addition, this image displays an example of the six phases across the study.

Figure 11

Multiple Baseline Design Example

To meet the quality indicators for single-case research, the independent variable

in this study (i.e., the intervention package) was systematically manipulated and

measured over time by more than one observer (Kratochwill et al., 2010). The researcher

systematically manipulated the independent variable by (a) introducing professional development to the classroom personnel, (b) introducing the token economy system, (c) graphing data daily, and (d) providing positive praise when earned. The researcher measured it over time by conducting random observations within the classroom using a frequency-based data sheet (see Appendix B). Further, the researcher collaborated with more than one observer by systematically conducting IOA sessions (see page 110).

Additionally, the number of participants and data collection points are a critical aspect of single subject research. For this study, five participants were included to ensure a total of eight to ten phases, each with a minimum of five data points collected per phase to demonstrate a functional relation (Kratochwill et al., 2010). A phase refers to a collection of data points under the same set of conditions (Chiang et al., 2015). For example, once the intervention is introduced, a new phase begins that is separated by a phase change line (see Figure 11). The first participant (Charsey) selected for intervention was the individual with the most stable baseline, indicating either low variability or a descending trend (e.g., the data points are relatively the same or on a downward slope). Subsequent intervention phases were initiated after the previous participant reached a steady responding rate in the intervention phase and after baseline reaches stability. Data were considered stable if the percentage fluctuated within 20% above or below, holding a flat or declining trendline. Follow-up data were conducted four weeks after completing the treatment package to test for maintenance.

Procedures

Once IRB approval, participant consent, and the school division consents were collected, baseline data collection began (January 25, 2022). The total timeframe of baseline and the intervention phases included a total of 30 school days, allowing for five days of baseline and five days in between the implementation of: each participant's intervention phase. Within the subsequent sections, procedures (see Table 5) for (a) pre-research, (b) baseline, (c) treatment, (d) post-intervention, (e) maintenance, and (f) post-research are discussed.

Table 5

Procedures Task List

Order	Phase	Action	Performed By	Measurement Tool
1	Pre-Research	Obtain IRB approval.	Jared	N/A
2	Pre-Research	Obtain GSSD approval.	Jared	N/A
3	Pre-Research	Recruit participants.	Jared	N/A
4	Pre-Research	Recruit FOI observer.	Jared	N/A
5	Pre-Research	Recruit IOA observer.	Jared	N/A
6	Pre-Research	Obtain participant consent.	Jared	N/A
7	Pre-Research	Train IOA & FOI observer.	Jared	N/A
8	BL	Conduct Demographic & Preference Assessment.	Jared	Survey
9	BL	Begin baseline data collection.	Jared & Kristen	Frequency & IOA
10	BL/Int	Introduce intervention to P2.	Jared, Kristen, & Donna	Frequency, IOA, & FOI
11	BL/Int	Introduce intervention to P3.	Jared, Kristen, & Donna	Frequency, IOA, & FOI
12	BL/Int	Introduce intervention to P4.	Jared, Kristen, & Donna	Frequency, IOA, & FOI
13	BL/Int	Introduce intervention to P5.	Jared, Kristen, & Donna	Frequency, IOA, & FOI
14	Post Intervention	Begin analyzing data. Wait 4 Weeks.	Jared	N/A
15	Maintenance	Collect Maintenance data.	Jared & Kristen	Frequency & IOA
16	Post Research	Conduct social validity survey.	Jared	Survey

Note: Baseline (BL), Intervention (Int).

Pre-Research

As noted in Table 2, the pre-research phase began with obtaining committee approval, IRB approval, and school district approval. Once approved, five participants, one IOA observer, and one FOI observer were recruited. Next, participant consent was obtained. Then, the IOA and FOI observer were trained.

Baseline

　　Baseline refers to the period in which data are collected prior to an intervention being introduced. The purpose of this data was to observe a difference before and after the intervention is introduced (Orme & Combs-Orme, 2012). As previously noted, (see Appendix C), all participants were asked to complete the demographic survey and preference assessment within the first three days of baseline via *Google Form.* Simultaneously, data were collected on the behavior of each participant once a day. Reactivity takes place when the participant changes their behavior, knowing they are being observed (Girvan, 2008). To control reactivity (e.g., participants providing praise more often in the presence of the researcher), the researcher began informal observations in classrooms throughout the month of December which was within the scope of his job responsibilities. According to Reid, Parsons, and Green (2012), observers should frequently monitor, monitor overtly, use an unpredictable schedule, and return on occasion unexpectedly. To meet current research standards, a minimum of five data points were collected prior to any participants beginning the intervention phase (Kratochwill, 2010).

Treatment

　　Treatment refers to the phase in which the intervention is implemented, and data are collected in the same manner as the baseline phase (Orme & Combs-Orme, 2012). Participants were selected for the intervention phase in a systematic fashion. The researcher systematically selected the first participant by identifying which participant has the most stable baseline condition (Charsey). As previously noted, stable, means that

the percentage fluctuated within 20% above or below, holding a flat trendline or declining trendline. The researcher selected subsequent participants by using the same criteria. If more than one participant was ready for treatment, the next participant was selected at random. Once the participant was identified, the classroom personnel was given professional development on the importance of positive reinforcement and the long-term effects, as well as modeling of explicit praise (see Appendix D). This professional development was conducted using Behavior Skills Training (BST). BST is a competency-based training method that involves providing a written description of the skills, modeling the skill, role-playing, observing, rehearsing, and providing feedback until the trainee reaches a set criterion (Hill, 2019; Reid et al., 2012). In this study, researchers utilized BST training to reteach the fundamentals of positive reinforcement until the participant can demonstrated four statements of praise to everyone statement of corrective feedback (see Appendix E). This criterion was selected based upon the previously discussed four to one ratio (PBIS Rewards, n.d.)

Once the initial professional development ended, the intervention phase utilized a differential reinforcement of higher rates protocol (see page 99 for a description). This intervention package included three components: (a) positive reinforcement, (b) a token economy system, and (c) visual feedback to increase ESP's verbal praise. In addition, after the classroom personnel had been trained as a whole, the participating ESP was asked to meet privately to explain the token economy system, and how the feedback and graphs were shared. Then, the intervention was systematically introduced to the next

participant every subsequent five days (given that the participant also has a stable baseline).

Maintenance

Maintenance refers to the phase after which the treatment is completed or no longer present (Shadish & Sullivan, 2011). The purpose of a maintenance phase is to examine if the changes made during the intervention have sustained over time (Ledford & Gast, 2018; Cooper et al., 2020). For this study, researchers collected a minimum of three to five follow-up data points. Data were recorded four weeks after the completion of the treatment phase, in accordance with current research standards (Ganz & Ayres, 2018). This timeframe allowed the primary researcher to graph and analyze baseline and intervention phase data and make predictions regarding maintenance. In addition, it provided an opportunity for the intervention to be faded and test for long-term effects.

Post-Research

After the maintenance data collection phases were completed, the social validity survey (see Appendix F) was administered to complete the study. This survey helped determine if the participants found this research to be beneficial and socially relevant to their lives. The primary researcher administered this survey via *Google Forms* on the day of the last maintenance data point. This survey was expected to take five-10 minutes to complete. The survey was administered via email and participants were asked to complete the survey within three business days.

Materials

Materials utilized for this research included the use of (a) *Google Suite*, (b) individualized datasheets, and (c) preferred reinforcers (e.g., gift cards, goose passes). *Google Workspace* is a collection of cloud-based software designed for collaborative purposes (e.g., document viewing, editing, co-authoring; Google Workspace, n.d.). Workspace includes the following tools that will be utilized across the research team (i.e., the researcher, IOA observer, FOI observer), which includes *Google Docs* (word processing software)*, Google Drive* (cloud storage)*, Google Sheets* (spreadsheets)*, Good Slides* (presentation builder)*, and Google Forms* (survey builder; Google Workspace, n.d.). Next, datasheets were created to measure and report the percentage of positive praise given within 10 opportunities (see Appendix B). Lastly, preferred reinforcers and gift cards were purchased on a weekly basis in accordance with the initial preference assessment.

Interobserver Agreement

Interobserver Agreement is when two or more observers "simultaneously and independently collect data for a subset of sessions and an appropriate measure of interobserver agreement (IOA) is calculated to provide an estimate of observer consistency" (Hausman et al., 2021, p. 357). Within research, IOA is collected to ensure that the data reported are reliable or consistent (Kahng et al., 2011). To meet current research standards, 80% or greater agreement is acceptable (Hausman et al., 2021). In addition, it is recommended that IOA is collected for a minimum of 30% of sessions across each phase (Kratochwill et al., 2010). There are several forms of IOA collection;

however, total count IOA data was used. This method was selected because the behavior

was measured in frequency (e.g., number of times it happens), and total count IOA is

used for event recording (Runyon & Meller, 2018). Total count IOA was calculated by

dividing the smaller number of the counts by the larger count and multiplying this

number by 100 (see Equation 1). In terms of IOA, data collection sessions were

systematically identified every three sessions for observation prior to the beginning of the

research. This was to ensure that both observers' schedules allow for observation. For

this study, another BCBA within the school district was recruited to collect IOA.

However, there were sessions that were rescheduled due to the BCBA not being available

(e.g., professional development, family emergency, illness).

$$\frac{Agreements}{Total\ Oppertunities} \times 100 \tag{1}$$

Observer Training

Prior to baseline collection, the BCBA and primary researcher met to review the

datasheet, discuss the operational definition of positive praise, and discuss examples and

non-examples. This process included the creation of a table outlining examples and non-

examples that were discussed from observation (see Table 6). In addition, the observers

agreed upon a protocol in which to start and stop observations. This included entering the

classroom together and staying on the same side of the classroom, far enough apart as to

not see one another's datasheet, yet not far enough apart as to have a different

perspective. Once settled, both observers used a non-verbal thumbs up to indicate the

start of data collection. Once the observer recorded five instances of feedback, a closed

111

fist was used to indicate that data collection was completed. The observers did not leave

until both observers recorded five instances of feedback. For the first day of IOA

sessions, the observers met in the hallway to discuss each individual observation to

calibrate data recording. If they were outside 80% agreement and had the opportunity to

return to the classroom, the session was redone. However, there was an instance in which

they were unable to return to a classroom because the ESP was completed with

instruction for the day. After the first day of IOA sessions, the observers collected data on

all five participants before debriefing.

Table 6

Examples and Non Examples of Praise

Examples of Positive Praise	Examples of Corrective Feedback
• "That's right!" • "mhhm!" • "Good job!" • "Yes!" • "There you go!" • *Clapping* • "Okay!" • *Head nod up and down* • *Thumbs up* • "I like how you…" • "Fantastic!"	• "No." • "You need to…" • "Next one." • "No, you…" • "What are you…" • "Let me show you…" • "I have already showed you." • "Right there." • "Uh oh." • "Write here." • "You know how to do this." • "Sit down." • "It's right there, you gotta look."

Note: This table represents examples and non-examples that were observed by the participants prior to data collection. This chart was utilized to train the IOA observer.

IOA Reporting

If the data were within 80% agreement, the primary researcher's data were utilized to graph. However, if the data were not within 80% agreement and there was not an opportunity to return to the classroom, an average of the two observers were graphed. For example, in session 4, the primary researcher recorded one instance of positive praise while the BCBA recorded three. During the debrief and review of anecdotal notes, the primary researcher noted the statement "No, no one does," as corrective feedback. However, in reflection, the context in which this statement was provided as a form of positive feedback in that the statement agreed with what the student was saying. Therefore, the observers noted that the context is equally as important as the word choice

(i.e., the use of "no," is not always corrective in nature). Considering the observers were unable to return to re-do the session, an average of their data was reported (e.g., two was reported as the average).

IOA Results

IOA data were collected for a total of 14 out of 38 total sessions (50%). Overall IOA was an average of 93% across all five participants and all phases. Further data analysis and results can be found in Chapter 4 under each participant's results for question one (see pages 128-135).

Table 7

Percentages of Interobserver Agreement

Session	Charsey	Tina	Sara	Erin	Jack
4	80	80	100	80	60
6	100	100	100	100	100
11	**100**	100	100	60	80
12	**100**	100	80	100	100
14	**100**	**80**	80	100	80
16	**100**	**100**	100	100	100
21	**80**	**80**	**100**	100	100
24	**100**	**100**	**100**	100	100
27	**100**	**100**	**100**	**100**	100
31	**100**	**80**	**80**	**80**	**80**
33	**100**	**100**	**80**	**100**	**80**
36	*100*	*100*	*80*	*100*	*80*
37	*100*	*80*	*100*	*100*	*100*
38	*100*	*100*	*80*	*100*	*80*
	97%	93%	91%	94%	89%

Note: Non-bolded percentages were IOA data collected during baseline, bolded percentages were collected during the intervention phases, and italicized percentages were collected during maintenance.

Procedural Reliability

Research procedural reliability refers to the implementation of the research plan as intended, often referred to as fidelity of implementation (FOI; Ledford & Gast, 2018). The primary purpose of collecting this data is to inform the researchers or readers of the research as to if the protocol was followed and to what degree (Ganz & Ayres, 2018). For example, if a research team only conducted an intervention with 50% accuracy and saw an increase in performance, it would be difficult to make the inference that one caused the other. According to current single case research standards, FOI should be collected and reported for a minimum of 30% of intervention sessions (Kratochwill et al., 2010).

To establish procedural reliability, a structured fidelity of implementation (FOI) checklist was created (see Figure 9). Another building administrator completed the FOI checklist during designated feedback sessions. This information helped determine if the intervention fidelity was high enough (80%), or if it required repeating. FOI was calculated by taking the number of correct responses from the researcher divided by the total number of steps planned and multiplied by 100 (see Equation 2). This number was then reported as a percentage.

Structured Fidelity Checklist

1. Provide a positive and empathetic statement.
      a.Identify skills performed correctly.
      b.Identify skills performed incorrectly.
2. Provide the participant with a rationale for the feedback session.
3. Provide the participant with a written summary of the targeted replacement behavior.
4. Provide a visual representation of their performance in the form of a graph.
5. Provide a verbal description (matching the written materials).
6. Discuss and identify potential barriers.
7. Establish two strategies to overcome these barriers (e.g., use of a visual).
8. Prompt for clarifying questions.
9. The participant is prompted to retell the expectations and explain the protocol.
    1. IF the participant responds correctly, provide immediate positive feedback
      a.IF the participant responds incorrectly, provide immediate corrective feedback and modeling.
      b.Continue to repeat until mastery.
10. Collaboratively establish a goal for the participant.
11. Prompt the participant to ask clarifying questions.
12. Close with a positive and supportive statement.

Note: The fidelity checklist will be completed utilizing a Google Form.

Figure 12

Fidelity of Implementation Checklist

$$\frac{Number\ of\ correct\ responses}{Total\ number\ of\ steps\ (12)}\ \text{x}\ 100 \hspace{4cm} (2)$$

Fidelity of Implementation Results

     FOI data were collected for 40% of the BST intervention sessions. Observations

were done for sessions three and five (Sara and Jack). Results indicated that the

researcher implemented the intervention according to the fidelity checklist with 92% and

100% accuracy respectively, with a 96% accuracy overall across the two sessions. During

the third session, the researcher missed the step in which the participant was asked to retell the expectations correctly. To correct this error, the researcher briefly met with Sara the following morning before the students arrived to ensure that she understood the expectations and protocol and prompted again for any final clarifying questions.

Social Validity

Research social validity refers to the acceptability of and satisfaction with intervention procedures by soliciting feedback from either/both the participant receiving the intervention or those around the participant that this behavior change also affects (Luiselli & Reed, 2011; Cooper et al., 2021). According to Luiselli and Reed (2011), this information also enables practitioners to select interventions that will be received well, therefore having a higher probability of success. While most social validity data in ABA are typically collected from those around the client such as, more recent discussions have been occurring among BCBAs as to the lack of input from the client (or participant) themselves (Hill & Breaux, 2021). As a result, single case research and practitioners are collecting social validity data from the participants themselves.

To establish social validity for both the participating ESP (i.e., the participants) and the non-participating personnel, two surveys were developed. First, the entire personnel were surveyed halfway through the first quarter of the school year (see Appendix F). Results indicate 53% of survey respondents expressed feeling "neutral," "unsatisfied," or "very unsatisfied" at work. Respondents noted a lack of positivity, professionalism, and respect towards students and personnel. Therefore, increasing the

amount of positive feedback in the environment towards students and personnel alike

would foster a more positive relationship and environment (Al-Ghamdi, 2017).

Second, a Likert-scale questionnaire was developed to examine the social

significance of the study for the participants. This survey was administered via *Google*

Forms after the intervention and the follow-up data collection. Questions target the

participant's feelings and opinions towards the overall goals, procedures, and effects

(Wolf, 1978).

The questionnaire (see Appendix F) included five items rated one to five, one

representing strongly disagreeing, and five representing strongly agreed. These

statements included:

1. I feel like the behavior addressed in this study is important to my work.

2. I feel more motivated to come to work after participating in this study.

3. I felt respected during the feedback sessions with the primary researcher.

4. I want to work on other goals in this form of professional development.

5. The behavior addressed in this study has made a difference in the overall

   workplace environment.

Data Analysis

Data analysis refers to the systematic application of either logical and/or statistical

techniques to describe or illustrate the results of research data (Shamoo & Resnik, 2003).

Researchers utilize the analysis to derive information and make assertions about the study

being conducted. The f way in which data was analyzed and reported for each research

question is discussed subsequently.

Table 8

Data by Research Question

Question	Research Question	Form of Data	Reported Using
1	Will the use of a behavior analytic intervention package delivered by administrators, behavior analysts, and teachers that consists of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback, increase ESP's verbal praise?	Percentage of positive praise within ten opportunities of feedback	Multiple Baseline Design across participants
2	Will the use of this intervention decrease student discipline referrals?	Percentages of positive praise compared to number of discipline referrals per week	Double Bar Graph
3	Do ESPs find this intervention package to be socially significant?	Likert scale survey results	Single Bar Graph

Question One

First, the question "Will the use of a behavior analytic intervention package that

consists of (a) positive reinforcement, (b) a token economy system, and (c) visual

feedback increase ESP's verbal praise?" is a question looking for a functional relation between variables. Therefore, formative and summative visual analysis were used. According to Ledford and Gast (2018), formative visual analysis is "conducted within and across conditions to identify behavior change during the study," while summative visual analysis is "conducted following the completion of the study, across multiple opportunities to demonstrate change and determine if there is a functional relation" between the variables (p. 181).

Formative measures. Formative measures include level (overall average), trend (slope or trajectory), and variability (the extent to which the data change) within a condition. Researchers also examine changes in responding, immediacy (how quickly the change takes place), overlap (how many data points fall on the same range in baseline and intervention), and consistency (which elements were present across all behaviors) between conditions (Ledford & Gast, 2018). Data graphing occurred daily at the school day's completion to monitor intervention responses and inform processes. Current standards regarding single case designs advocate for a minimum of three demonstrations of behavior change to establish experimental control (Kratochwill et al., 2010).

Inductive logic. Second, inductive logic was utilized by graphing predictions and affirmations of the consequent. Visually representing changes over the expected continuation of the original behavior demonstrates functional relation (Cooper et al., 2020). Seeing that a withdrawal was unethical in this case, the second through fifth participants maintaining their level and trend would provide verification. Last, changes in

the second through the fifth subject in the intervention phases would provide replication and confirm experimental control (Cooper et al., 2020).

Summative measures. Third, summative analysis included identifying multiple demonstrations of effects and assessing change's magnitude (Ledford & Gast, 2018). Magnitude is an estimate of the effect or strength of the relationship between two variables (Beeson & Robey, 2006). Magnitude is typically reported using Cohen's (1988) *d* statistic (Ledford & Gast, 2018). This number then allows researchers to determine if there is a small, medium, or large effect size because of the treatment (Beeson & Robey, 2006).

Cohen's $d = (M_1 - M_2)/s_{pooled}$ (3)

Question Two

Second, the question "Will the use of this intervention decrease student discipline referrals?" is a cause and effect-based question. To continue utilizing visual analysis, a double bar (i.e., a clustered bar graph) graph was used. A double bar graph allows researchers to compare two sets of data at once (Lewis-Beck et al., 2004). Therefore, this visual compared the number of disciplinary referrals from the school in Quarter two (pre intervention) to Quarter three (intervention). In addition to visual analysis, statistical analysis was used to determine the percentage of increase or decrease between each quarter of the school year's data as well as the statistical significance between Quarter two and Quarter three. Researchers find statistical significance between two sets of data by first conducting a paired *t*-test, which determines if the difference between the means is statistically correct (Hahs-Vaughn & Lomax, 2020). Then, the *t*-score and degrees of

freedom were used to determine the *p*-value. The *p*-value is the level of significance within a statistical hypothesis test, providing the probability of the occurrence of an event (Hahs-Vaughn & Lomax, 2020). When interpreting a *p*-value, the lower the value, the greater the significance (Hahs-Vaughn & Lomax, 2020). For example, it would be more significant to have *p* = .01 than *p* = .10.

Question Three

Third, the question, "Do ESPs find this intervention package to be socially significant?" will produce an overall mean per Likert scale question (e.g., Question two: yielded an average mean of 4.4 across the five participants). Each question was also broken down and reported as the largest percentage of responses (e.g., 80% of the participants reported "completely agree[d]" that the behavior addressed in this study was relevant to their work.). In addition, each question was reported with a bar graph, visually representing the scaled responses per question.

Limitations

Limitations refer to the weaknesses within the study due to resources, sample size, or methodological flaws that may influence the outcomes and the ways the results were interpreted (Ross & Bibler Zaidi, 2019). Researchers identify limitations to help the consumers of research (i.e., the reader) understand the biases or flaws within the research that should be considered when analyzing the information (Greener, 2018).

While attempting to account for as many variables as possible, it was important to recognize that this study will be conducted in a natural environment and not a controlled setting. Therefore, there was potential for threats to the internal validity of the

experiment. Internal validity is the extent to which the results are representative of the study (e.g., the changes in the dependent variable are a result of a change in the independent variable) and are not due to other confounding variables or methodological errors (Patino & Carvalho Ferreira, 2018). A confounding variable is a variable that is not appropriately controlled, potentially resulting in misrepresented results (Hymel, 2008). These confounding variables include measurement, subject, and setting confounds. First, measurement confounds included potential subject reactivity despite reactivity training. Measurement confounds may also encompass observer bias, depending upon who the secondary observers are. Second, subject confounds included maturation or the changes in a subject throughout the study. Third, setting confounds included the inability to hold all other extraneous variables constant. Therefore, subjects may potentially experience bootleg reinforcement, which is not a planned component of the intervention plan (Friedman et al., 2006).

Beyond confounding variables, other limitations needed to be accounted for: supervisory relationships, subject pool, resources, and time. First, it should be noted that I was both the primary researcher and one of two supervisors of the participants (although I may not be the direct evaluators for all participants). This mutual relationship could have skewed results. Therefore, to control this, those who volunteered to participate were evaluated by the principal instead of myself (if they are on my supervisory list). Second, due to the limited size of the personnel, the subject pool for this study was extremely limited due to the difficulty in filling vacancies as previously discussed. Third, as a school administrator, I was limited in my ability to allocate my fiscal resources towards

this research. GSSD does not allow for incentives or rewards (e.g., personnel shirts, lanyards, gift cards) to come from the school budget. In addition, as a part-time student, I had limited access to university-based funding. Therefore, any incentives were financed through my personal funds. Fourth, as a new administrator in a high-demand school, my time was limited as to when and how much time I could spend in a classroom daily.

Chapter Four: Results

As noted in Chapter Three, the purpose of this research was to examine the implications of organizational behavior management techniques used by administrators, behavior analysts, and teachers within the public-school context. The research team identified five participants that were either new to the program or displayed low levels of positive reinforcement when working with students. The following chapter includes: (a) the effect of the intervention on positive praise, (b) the indirect effect of the intervention on the school's disciplinary data, and (c) the social validity survey results from the participants.

Verbal Praise

The primary research question of this study was: "will the use of a behavior analytic intervention package delivered by administrators, behavior analysts, and teachers that consists of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback increase ESP's verbal praise?" Verbal praise is one of many forms of positive reinforcement, which is an empirically based intervention used to increase the likelihood of a behavior occurring again in the future (Ackerman, 2019). As previously noted in chapters one through three, the use of positive reinforcement is also directly tied to issues related to compliance (e.g., FOI for BIPs), ethics, disciplinary referrals, student safety, and overall school climate (e.g., workplace environment, classroom culture).

Therefore, a group of five individuals were systematically introduced using a MBD across participants to an independent variable that consisted of: (a) positive

reinforcement in the form of social praise, (b) the use of a token economy system, and (c) the use of visual feedback. The dependent variable measured was positive praise. Positive praise was defined as providing verbal or physical behaviors, which indicate the learner did something accurately. Examples included statements (e.g., "I like how focused you are!"), actions (e.g., thumbs up, high-fives, pat on the back), providing access to items (e.g., giving them toys, stickers) or providing students with an earned break (e.g., going to the motor room, playing a game together). Nonexamples included providing corrective feedback (e.g., "you should have," or "next time you should try") or providing feedback in the form of a reprimand (e.g., "No," or "How many times have I told you?"). The research team collected count data, which was reported as a percentage out of five opportunities observed. The following section includes: (a) group summary (including formative measures, summative measures, and inductive logic) and (b) individual participant results.
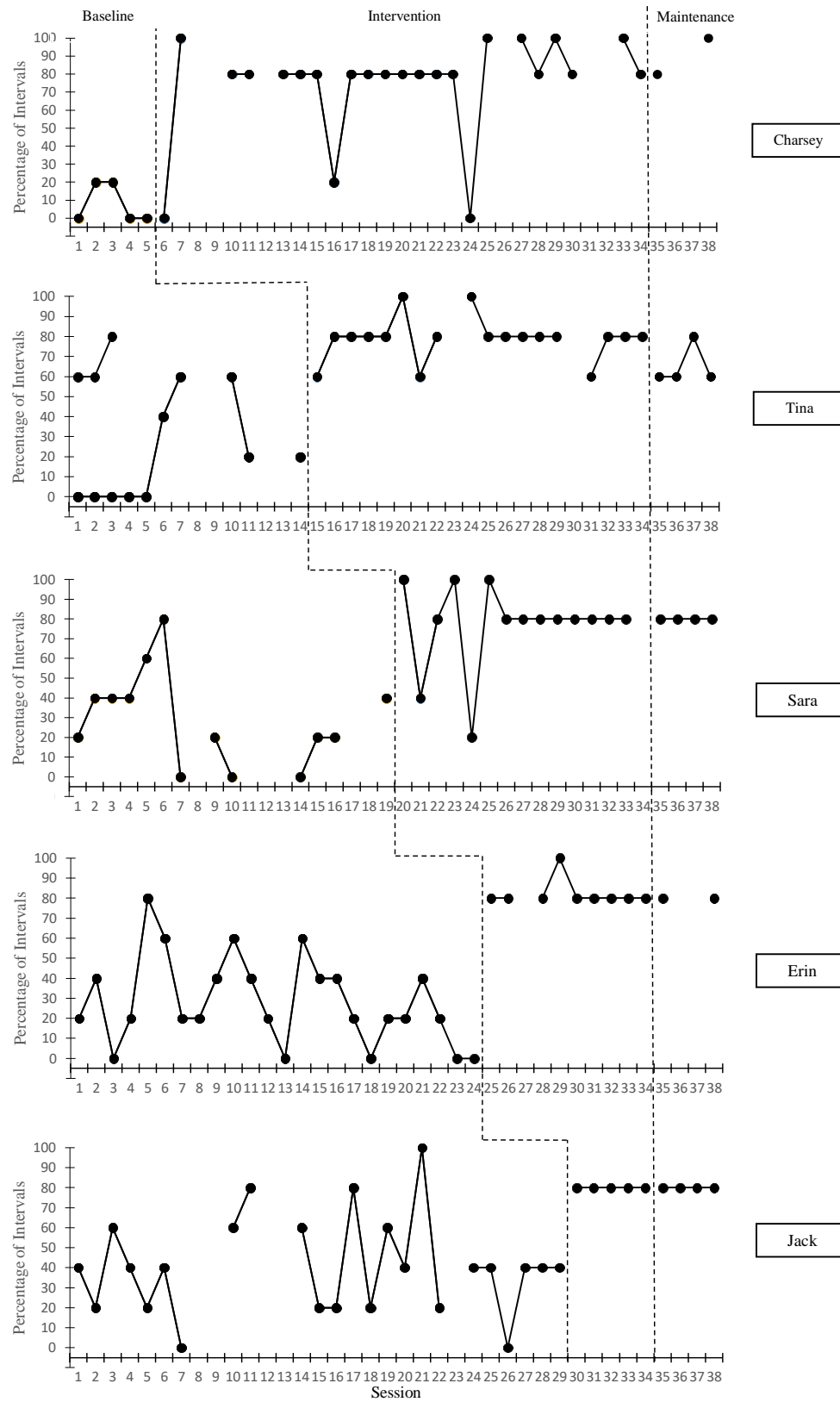
Note: Visual analysis of the percentage of positive praise per session out of the first five opportunities observed. Visual analysis indicated a functional relation between positive reinforcement and the intervention package.

Figure 13

Percentage of Positive Praise Per Session

Group Summary

In the examination of all five participants, there were several changes in level, trend, and variability. First, all five participants (100%) showed an increase in level with an average increase of 54% with a range between 39-68% increase in performance. Second, four out of five participants (80%) changed the direction of their trends from a declined slop to either an increasing slope or flat trend (three participants; 60%), or a decreasing trend to a flat trend (one participant; 20%). One participant (20%) went from an increasing trend to a flat trend. Third, three out of five participants (60%) displayed a decrease in variability over time, while one participant (20%) showed a slight decrease, and one participant (20%) showed an increase in variability.

In terms of immediacy, four out of five (40%) participants displayed an immediate change in their performance after the intervention began. All five participants (100%) displayed instances of overlap between the baseline phase and intervention phase. However, it should be noted that considering this research utilized a DRH (differential reinforcement of higher rates) procedure, participants were expected to already have the skill within their repertoire (McDuff et al., 2019). Therefore, the research team predicted that there would be an overlap between phases.

The research team predicted that all five participants would increase their performance once the intervention was introduced, with a goal of the participants displaying an average of 80%. After the intervention phases were all conducted, the five participants collectively averaged 79% of positive reinforcement per session with a range of 77-82%. Individual predictions per participant are discussed in subsequent sections. Once the intervention was conducted, each participant's increase and sustained performance provided affirmation of the consequence. Then, changes in the second through fifth participant's changes in level and trend provided verification.

Next, all five participants (100%) displayed a measurable increase in performance of positive praise. The second through fifth participant provides both evidence of replication and confirm experimental control. Finally, Cohen's *d* and effect size, *r,* were calculated (see Table 9). Results indicated a large effect size on the participant's performance (*d=9.112; r=0.977).*

Table 9

Cohen's d *and r Data for Calculations*

	G_1	G_2
M	24.6	79.0
n	5	5
σ	10.225	1.720
$σ_{pooled}$	5.972	
d	9.112	
r	0.977	

Note: Cohen's r indicates a large effect size (greater or equal to 0.8).

Charsey

First, using formative analysis, Charsey's baseline displayed a low level (average of 10%) of positive praise with a declining trendline. Having the shortest baseline period of five sessions, she displayed little variability, fluctuating between 0-20%. Initially, she did not respond to the intervention during session six; yet her performance jumped to 100% and remained relatively high (mostly 80%-100%) throughout the rest of the intervention phase. During her intervention phase, Charsey missed five days of work due to illness, and a day (session 26) when data were unable to be collected unrelated to the participant. The researcher documented attempting to collect data three times throughout the day; however, multiple student-related crises took precedence. Out of 23 intervention sessions, Charsey had three sessions (13%) of overlap with baseline data.

Second, in terms of inductive logic, Charsey displayed an overall average of 10% in the baseline phase. The research team predicted that without intervention, she would continue to fluctuate between 0-20%, around a 10% average. The overall goal for all participants was to reach and maintain an overall 80% accuracy or above across the intervention phase to match the recommended four-to-one ratio of positive reinforcement to corrective feedback (PBIS Rewards, n.d.). Throughout the intervention, she was able to maintain an average of 78%. Potential confounding variables that may have caused the three instances of overlap that were recorded include (a) difficulty with implementing differential reinforcement of alternative behaviors (b) data being recorded during the onset of two student crises.

Third, Charsey maintained an average performance of 90% four weeks after the intervention ended. It should be noted that this average is based on only two data points, as the researchers were unable to get data on two additional attempts due to the circumstances of the environment (e.g., student crisis). Finally, IOA for Charsey's data were an overall average of 97% agreement across 13 sessions. Out of these 13 sessions, 40% were of baseline (two sessions), 39% of intervention (nine sessions), and 50% of maintenance (one session) included IOA data.

Tina

First, formative analysis indicates Tina's baseline displayed a low level of positive praise (average of 20%) with a slight incline in trend. During the baseline phase, Tina experienced exposure to COVID-19 as well as a two-day professional development, resulting in four absences in the baseline. Therefore, this phase was increased to allow for a full five data points in between phases according to current research standards (Kratochwill et al., 2010; Ledford & Gast, 2018). Although her baseline extended across 14 days, a total of 10 data points were collected, which varied from 0-60%. Initially, Tina's performance overlapped with the highest data points of her baseline; yet her performance increased, remaining between 60-100% for the remainder of the intervention phase. During the intervention phase, Tina missed an additional two days of work due to illness and a personal appointment. Out of the 18 intervention sessions, Tina had three sessions (16%) overlap with baseline.

Second, in terms of inductive logic, Tina displayed an overall average of 20% in the baseline phase. The research team predicted that without intervention, she would

continue to fluctuate between 0-60%, around a 20% average. Throughout the

intervention, she was able to maintain an average of 79%. Potential confounding

variables that could have resulted in the three instances of overlap include: (a) the

observer having difficulty hearing the participant in the classroom due to elevated noise

level (e.g., students working with one another, window air conditioning units), and (b) the

observer missing gestural feedback, and (c) the participant not feeling well.

Third, Tina maintained an average performance of 65% four weeks after the

intervention ended. Although she did decrease by 13%, she remained 55% higher than

her baseline average. Finally, IOA for Tina's data were an overall average of 93%

agreement across 13 sessions. Out of these 13 sessions, 40% were of baseline (four

sessions), 39% of intervention (seven sessions), and 75% of maintenance (three sessions)

included IOA.

Sara

Looking first at formative analysis, Sara's baseline displayed a low level of

positive praise (average 29%) with a slight decline in trend. During the baseline phase,

Sara experienced a positive case of COVID-19, resulting in six absences in baseline.

Although her baseline extended across 19 days, a total of 13 data points were collected,

which varied from 0-80%. In addition, Sara's baseline had a high level of variability.

Once the intervention was implemented, Sara's intervention performance displayed 11

data points (79%) of overlap with two data points in baseline (15%). However, her

performance increased notably. Throughout the intervention, Sara remained between 20-

100%, finishing with a consistent 80% across eight sessions. During the intervention

phase, Sara did not miss any additional days of work.

Second, in terms of inductive logic, Sara displayed an overall average of 29% in

the baseline phase. The research team predicted that without intervention, she would

continue to fluctuate between 0-80%, around a 30% average. Throughout the

intervention, she was able to maintain an average of 77%. Potential confounding

variables that could have resulted in the three instances of overlap include: (a) a major

classroom incident resulting in a multi-student fight during the observation, (b)

concurrent human resource issues within the classroom, and (c) reported migraines.

Third, Sara maintained a consistent average performance of 80% four weeks after

the intervention ended. Finally, IOA for Sara's data were an overall average of 91%

agreement across 13 sessions. Out of these 12 sessions, 46 of baseline (six sessions), 33%

of intervention (five sessions), and 75% of maintenance (three sessions) included IOA.

Erin

First, formative analysis for Erin's baseline phase displayed a low level of

positive praise (average of 24%) and a declining trend. During the baseline phase, Erin

did not have any absences. The research team did not select Erin for earlier intervention

due to her high variability of response (ranging from 0-80%) across the 24 sessions. Once

the intervention was implemented, Erin's response displayed an immediate increase from

0% to 80%. In terms of overlap, eight intervention data points (89%) overlapped with one

baseline data point (4%). Throughout the intervention phase, she maintained a response

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of 80-100%, with an overall average of 82%. During the intervention phase, Erin missed one day of work due to a family-related issue.

Looking at the inductive logic, Erin displayed an average of 23% in the baseline phase, The research team predicted that without intervention, she would continue to fluctuate at a highly variable rate between 0-80% with an average falling around 25%. Throughout the intervention, she was able to maintain an average of 83%. Potential confounding variables that could have resulted in instances of overlap and high variability include: (a) working with preferred versus non-preferred students and (b) internal events relative to personal life.

Third, Erin maintained an average performance of 80% four weeks after the intervention ended. It should be noted that this percentage is based on two days of Maintenance data due to illness. Finally, IOA for Erin's data were at an overall average of 94% agreement across 13 sessions. Out of these 13 sessions, 33% were of baseline (eight sessions), 33% of intervention (three sessions), and 50% of maintenance (one session) included IOA data.

Jack

First, formative analysis measures for Jack indicate a mid-level positive praise (average of 41%), a flat trendline, and a high level of variability. During the baseline phase, Jack had a total of five missed sessions. Two were related to off-campus professional development, and three were COVID-19 related absences. Similarly, to Erin, the research team did not select Jack for earlier intervention due to his highly variable response rates (ranging from 0-100%) across the 29 sessions. Once the intervention was

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implemented, there was an immediate increase from 40% to 80% and a significant

decrease in variability. Considering the baseline phase ranged from 0-100%, there were

five intervention data points (100%) that overlapped with three baseline data points

(10%). Throughout the intervention phase, Jack did not miss any additional days of work.

Second, the inductive logic indicates that Jack displayed an overall average of

41% in the baseline phase. The research team predicted that without intervention, he

would continue to fluctuate at a high level of variability 0-100% with a mid-average of

40-50%. Throughout the intervention, he was able to maintain a consistent 80% response

rate in five out of five sessions.

Third, Jack maintained an average performance of 80% four weeks after the

intervention ended. Finally, IOA for Jack's data were at an overall average of 89%

agreement across 13 sessions. Out of these 13 sessions, 38% were of baseline (nine

sessions), 40% were of intervention (two sessions), and 75% of maintenance (three

sessions) included IOA data.

Discipline Referrals

The second research question of this study was: "Will the use of this intervention

decrease student discipline referrals?" The purpose of this question was to investigate if

there was evidence of a broader impact of the intervention on student behaviors. In

theory, the intention was for the research team to increase the rate of positive

reinforcement available within the learning environment, making it a more desirable

place for students and staff to want to be (Caldarella et al., 2015). Moreover, this increase

in positive reinforcement would increase the desired behaviors from students (e.g., work

completion, staying in assigned areas, displaying safe behaviors) and decrease unwanted

behaviors (e.g., physical aggression, eloping from assigned areas, self-injurious

behaviors, property destruction; Harris, n.d.). Therefore, the following section includes

(a) significance, (b) impact on the whole school, and (c) impact on individual classrooms.
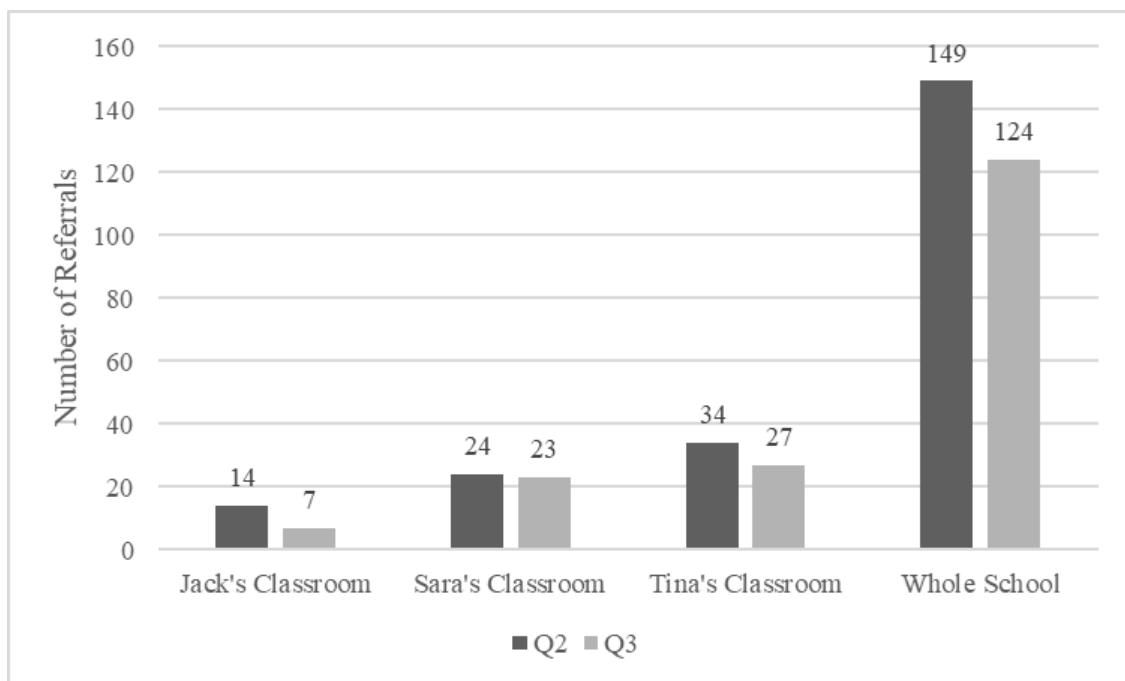
Note: Visual analysis of the number of disciplinary referrals comparing Quarter two to Quarter three indicated a slight reduction across the targeted classrooms and the overall school environment which was statistically significant at p < .10.

Figure 14

South Harbor Disciplinary Referrals

Significance

In a visual examination of the data across the three classroom settings and the overall school setting, there was a consistent decrease to some degree across all data sets. In addition to visual analysis, a one-tail, paired *t*-test was conducted ($t = 1.9245$). Analysis of results from Quarter two (pre intervention; $M = 55.25$, $SD = 63.03$) and Quarter three (intervention; $M = 45.25$, $SD = 53.21$) indicate that the overall intervention package resulted in a decrease in disciplinary referrals ($t(3) = 1.9245$, $p = .074987$). Therefore, there was a significant effect for positive praise, $t(3) = 1.9245$, $p < .10$, with lower student disciplinary referrals during the intervention.

Table 10

Statistical Analysis Data for Disciplinary Referrals

	G_1	G_2
M	55.25	45.25
SD	63.03	53.21
t	1.9245	
df	3	
p	.074987	

Note: G_1 = Quarter 2, G_2 = Quarter 3.

Tina's Classroom

Tina was an IBA (instructional behavior assistant) who works in the secondary (6th through 12th grade) grades at South Harbor. She was the second participant to receive the intervention (18/45 school days were in intervention). Within the school, there were

two secondary classrooms (6th-8th grade and 9th-12th grade) that switched throughout the day between two subject specific teachers. Therefore, Tina worked with all secondary students at some point throughout the day. In the second quarter of the school year, 34 referrals were (25 major and nine minor) written while students were within Tina's classroom. During the third quarter, 27 (24 major and three minor) referrals were written, showing a 21% overall reduction. When disaggregating the data, Tina's classroom showed a greater reduction in minor referrals than major referrals.

Sara's Classroom

Sara was an IBA working in a self-contained elementary school classroom where she is with the same class for every part of the day other than her own lunch (30 minutes). She was the third participant to receive the intervention (14/45 days were in intervention). In the second quarter of the school year, Sara's class received 24 referrals (22 major and two minor). In the third quarter, her class received 23 referrals (21 major and two minor). Thus, a 4% overall reduction. However, it should be noted that qualitatively, these referrals were less intense in nature. For example, the second quarter had a higher number of referrals that were physically aggressive (e.g., punching, kicking, slapping, biting, spitting), while the third quarter was more related to work avoidance and eloping from assigned areas.

Jack's Classroom

Like Tina, Jack was an IBA working with secondary students. He was the fifth participant to receive the intervention (5/45 days were in intervention). In the second quarter of the school year, Jack's class received 14 referrals (five major and nine minor).

In the third quarter, his class received seven referrals (five major and two minor).

Therefore, there was a 50% reduction in overall referrals. Similar to Tina's classroom,

there was a greater decrease in minor referrals. However, seeing that Jack was only in the

intervention phase for 11% of the quarter, one would expect a lesser impact.

Erin and Charsey's Impact

Considering Erin was an IBA and Charsey was a behavior technician that worked

with all students across the school, data from the entire school were used to examine their

impact on student performance. Both roles provide direct student support within

classrooms as well as transitions, lunch, recess, and other unstructured times. It should be

noted that Charsey was the first to receive the intervention, and Erin was the fourth.

Holistically, there was a decrease in overall major and minor disciplinary referrals from

Quarter two to Quarter three from 149 referrals (108 major and 41 minor referrals) to 124

referrals (104 major referrals and 20 minor referrals). Therefore, there was almost a 17%

reduction in disciplinary referrals across the entire student body. In terms of confounding

variables, there were five students who transitioned out of the program at the end of the

second quarter, with five additional students who entered the program throughout the

third quarter. Therefore, one would have expected the number of referrals to increase

knowing that there was a loss of positive peer role models with new students who

identified at their previous placements as struggling.

Social Validity Survey

The third research question was: "Do ESPs find this intervention package to be

socially significant?" Social significance refers to the practical impact on society in

visible or useful ways when an intervention is applied (Keyton, 2018). The social validity

of this research was measured using a questionnaire which included five *Likert* scale

questions and one open ended question. As discussed on page 51, BCBAs and

researchers alike utilize social validity measures to understand if clients (e.g.,

parent/guardian or the participant receiving the intervention) or those around the

participant find the intervention acceptable and see a difference in the behavior (Cooper

et al., 2021; Luiselli & Reed, 2011). Therefore, the following section includes both visual

representations and written summaries of each question.
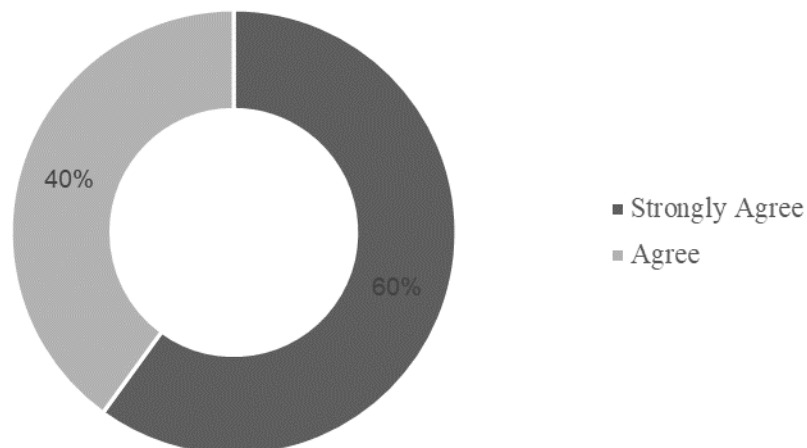
Note: Using a Likert Scale*, all five participants responded either strongly agreed (60%)
or agreed (40%) regarding the importance of this research to their work.*

Figure 15

Importance of Positive Reinforcement to Work

Question One

Question one stated: "I feel like the behavior [positive praise] addressed in this study is important to my work?" While the research team felt that this was an important target behavior to address for this study, the purpose of this question was to determine if the participants also found it relevant to their work. Participants were able to select from five *Likert* scale options ranging from strongly agree, agree, neutral, disagree, or strongly disagree. Results indicated that 60% of the participants strongly agreed and 40% of the participants agreed that positive praise is important to their work.
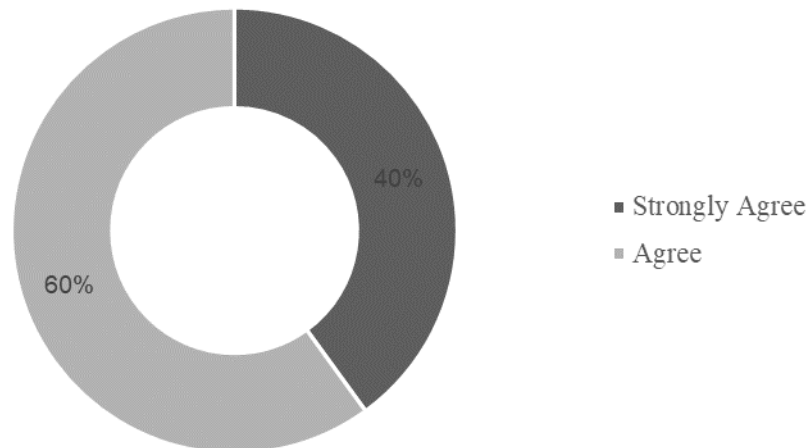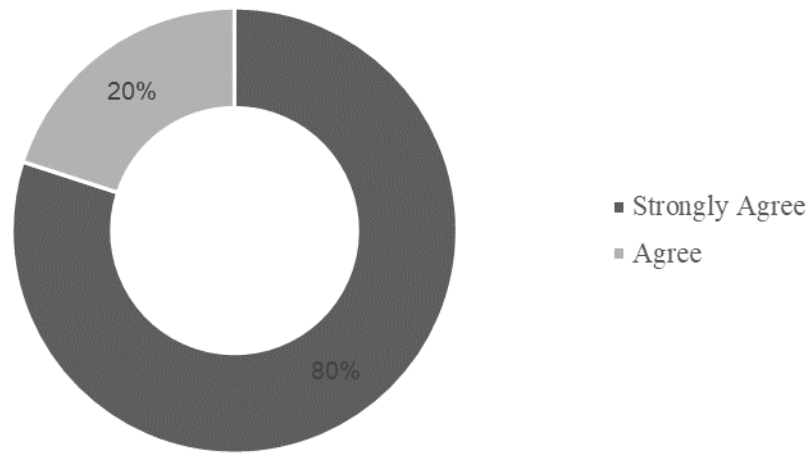

Note: Using a Likert Scale*, all five participants responded either strongly agreed (40%) or agreed (60%) regarding the impact on their motivation at work.*

Figure 16

Impact on Motivation at Work

Question Two

Question two stated: "I feel more motivated to come to work after participating in this study." As previously discussed, staff morale, retention, and attendance rates were low. Therefore, the purpose of this question was to see if participants were extrinsically motivated by the reinforcers provided. In addition, the research team wanted to examine if there was a relationship between an increase in positive reinforcement and these other variables (e.g., morale, retention, attendance). Results indicated that 60% of the participants strongly agreed and 40% of the participants agreed that this study motivated them to come to work.
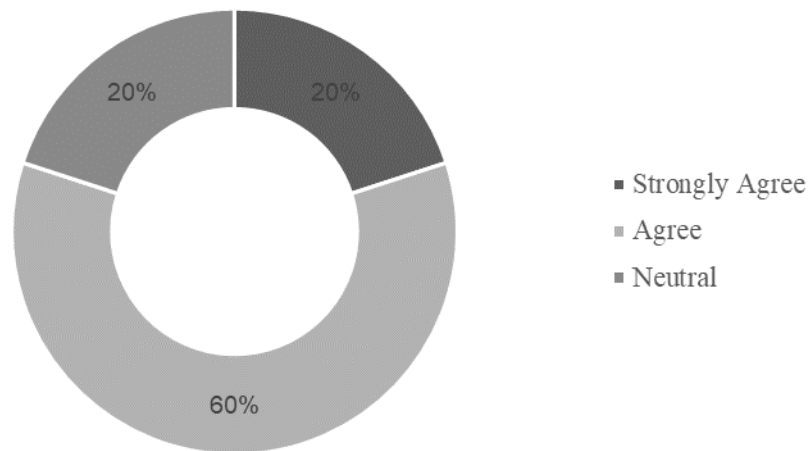

Note: Using a Likert Scale, *all five participants responded either strongly agreed (80%) or agreed (20%) to feeling respected by the primary research during feedback.*

Figure 17

Feeling Respected by the Researcher

Question Three

Question three stated: "I felt respected during the feedback sessions with the primary researcher." The researcher integrated Reid and Parsons's (2012) feedback protocol into the BST session and subsequent feedback sessions. Ultimately, this question examined if the participants found this to be a respectful way of receiving feedback. Results indicated that 80% of the participants strongly agreed and 20% of the participants agreed to feeling respected by the primary researcher during feedback sessions.
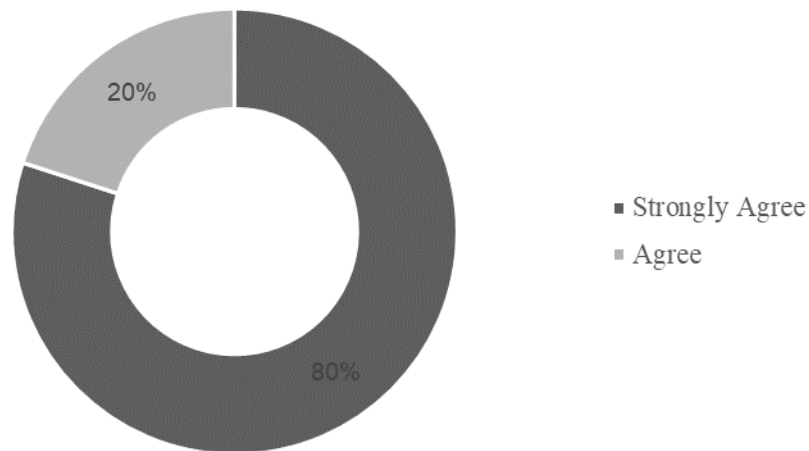

Note: Using a Likert Scale, *participants responded either strongly agreed (20%), agreed (60%), or neutral (20%) to wanting to participate in this type of professional development again.*

Figure 18

Desire to Use This Form of Professional Development Again

Question Four

Question four stated: "I want to work on other goals using this form of professional development." The purpose of this question was to determine if participants were willing to go through ongoing professional development and high levels of feedback for future skill acquisition. Results indicated that 20% of the participants strongly agree, 60% of the participants agreed, and 20% of the participants were neutral to wanting to participate in this form of professional development again.

Note: Using a Likert Scale, *all five participants responded either strongly agreed (80%) or agreed (20%) to this research making a difference in the workplace environment.*

Figure 19

Overall Difference in the Workplace

Question Five

Question five stated: "The behavior of positive praise addressed in this study has made an overall difference in the workplace environment." The purpose of this question

was to determine if the participants themselves noticed the overall impact on the school setting (e.g., student behavior, morale, attendance, retention). Results indicate that 80% of the participants strongly agreed and 20% of the participants agreed that the research made a difference in the workplace environment.

Social Validity Impact

Overall, the social validity questionnaire indicated that the intervention package was socially significant to the participants. First, 100% of participants reported strongly agreeing or agreeing with the intervention being important to their work. Second, 100% of the participants reported strongly agreeing or agreeing impacted the motivation to come to work. Third, 100% of participants reported strongly agreeing or agreeing that the primary researcher respected them during the intervention. Fourth, 80% of the participants reported strongly agreeing or agreeing to want to use this form of professional development again with 20% reporting neutral feelings. Fifth, 100% of participants reported strongly agreeing or agreeing that the intervention made a difference in the overall workplace. Finally, none of the participants completed the open-ended question to comment on any additional things they liked or disliked about the process.

Overall Summary of Results

In conclusion, the results from the first research question: "Will the use of a behavior analytic intervention package delivered by administrators, behavior analysts, and teachers that consists of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback increase ESP's verbal praise?" indicated a functional relation between positive reinforcement and the intervention package. In addition, Cohen's r indicated a

large effect size (greater or equal to 0.8). Results from the second question: "Will the use of this intervention decrease student discipline referrals," indicated a slight reduction across the targeted classrooms and the overall school environment that was statistically significant at $p < .10$. Finally, results from the third question: "Do ESPs find this intervention package to be socially significant," indicated that the participants found the intervention to be socially significant to their work.

Chapter Five: Discussion

The purpose of this study was to examine the implications of organizational behavior management techniques, used by administrators, behavior analysts, and teachers within the public-school context. For this study, the research team utilized OBM strategies to target positive reinforcement rates provided by ESPs (Education Support Professionals) to students. Additionally, this study was used to examine the social validity of this form of professional development and the relational impact on student behavior. Therefore, the subsequent sections include: (a) summary of findings, (b) comparison to previous research, (c) contributions to literature, (d) implications for practice, (e) implications for policy, (f) limitations, and (g) future research.

Summary of Findings

The research team's objective was to answer three questions. The first question examined the impact of the intervention on the target behavior, the second question examined the impact of the change in personnel's behavior on the student's behavior, and the third question examined the social validity of the intervention. The following sub-sections include findings related to (a) positive praise, (b) disciplinary referrals, and (c) social validity.

Positive Praise Results

The first research question was: "Will the use of a behavior analytic intervention package delivered by administrators, behavior analysts, and teachers that consists of (a) positive reinforcement, (b) a token economy system, and (c) visual feedback increase

ESP's verbal praise?" To address this question, a multiple baseline design across five participants was used. In accordance with current single case design standards, each phase consisted of four-five data points, with five being the goal. The research team utilized frequency data to count the number of statements of positive praise to corrective feedback statements given in the first five observed opportunities. Then, these data were reported as an overall percentage of positive praise. In addition, IOA data were collected for a minimum of 30% of each phase for all participants and was only accepted if within 80-100% agreement. Once the initial intervention was introduced to the participant (Behavior Skills Training), each participant utilized a token economy system and daily visual feedback. FOI was measured in two out of five BST sessions with an average of 96% accuracy. Visual analysis of participant performance indicated changes across each participant in level, trend, and variability. In addition, Cohen's r indicates a large effect size (greater or equal to 0.8).

Disciplinary Referrals Results

The second research question was: "Will the use of this intervention decrease student discipline referrals?" To address this question, a double bar graph was used to compare disciplinary referrals from Quarter two and Quarter three of the school year. Quarter one was not included in this data due to several confounding variables (e.g., staffing changing, different students, errors in reporting). Visual analysis of the double bar graph indicated a reduction in disciplinary referrals across all three classrooms and the school overall. Statistical analysis indicated the result was significant at $p < .10$. Disaggregation of the data sets also indicated a larger impact on minor (e.g., work

refusal, swearing, arguing) offenses versus major offenses (e.g., leaving the classroom, physical aggression, threatening bodily harm).

Social Validity Results

The third research question was: "Do ESPs find this intervention package to be socially significant?" To address this question, the researchers used a social validity questionnaire which was comprised of five Likert scale questions and one open-ended question. The survey indicated that 14/25 responses strongly agreed, 10/25 agreed, and 1/25 were neutral with the questions. 0% of the participants responded to the open-ended question to provide additional thoughts or feelings toward the research. Therefore, survey results indicated that the study was socially significant to the participants and their work.

Comparison to Previous Research

As discussed in Chapter Two, previous research relative to education leadership, special education, and applied behavior analysis tends to be siloed into their respective disciplines. While there are examples of overlap between each silo (e.g., implementing behavior plans in a special education classroom), broadly speaking, researchers within these three fields commonly conduct research exclusively within their fields. Therefore, in this study, the research team sought to merge best practices among education leaders, special education teachers, and behavior analysts to change ESP's behavior. The following subsections include comparison to previous literature in (a) OBM in schools, (b) disciplinary referrals, and (c) social validity within ABA.

Organizational Behavior Management Literature

There are few research studies using OBM within the school setting, and ABA has become synonymous with special education in some school settings (particularly for students with ASD or ID). However, ABA is not limited to just students with disabilities. OBM is the application of ABA strategies in the workplace environment (Rodriguez, 2022). OBM literature encompasses strategies such as positive reinforcement, BST (behavior skills training), and feedback protocols.

Positive Reinforcement. This study reinforces previous research that positive reinforcement can be universally and effectively used across a variety of populations (Ackerman, 2022). Second, the maintenance phase provided further verification that positive reinforcement produces sustained changes over time (Scott et al., 2021; Stangor & Walinga, 2014) Third, this study also further verified the flexibility and effectiveness of token economy systems (AccuPoint, 2021). Finally, this study aligns with Daniel and Bailey's (2014) findings of the positive effects on using visual feedback in the workplace setting.

Behavior Skills Training. As outlined on page 107, BST is a form of PD which includes modeling, practice, and feedback until a predetermined level of competency (Parsons & Rollyson, 2012). For this study, the researchers utilized both a standardized BST protocol with embedded feedback protocol recommended by Reid and Parsons (2012). Most of the previous BST research includes participants working in clinical settings, parents of clients, and participants working within a business context outside of a school (Beck, 2021; Leerman et al., 2015; Tarbox & Granpeeshed, 2014). In

comparison to previous research, this study differs in the population of study participants, thus adding an additional context to the ways in which BST may be utilized in the teaching profession. Further, this study coincides with the overall positive impact of BST, as all five participants increased and maintained a higher level of positive praise.

Visual Feedback. Although there is a litany of research regarding various types of feedback (e.g., immediacy versus prolonged, visual versus verbal), visual feedback in the form of line graphs were used for this study due to the simplicity of their nature and ease of visual analysis. Compared to previous research, Daniels and Bailey (2014) posted visual feedback in a place where participants could see it (e.g., outside their office, outside their cubical). However, Bailey and Burch (2010) noted in a separate piece of work that leaders should be cautious in considering the feedback preferences of individuals to maintain motivation. For example, one personnel member may prefer public recognition, while another may find it to be embarrassing. Therefore, this research utilized private forms of feedback based upon participants' preference assessments. This study extended literature suggesting visual feedback is a useful tool to improve employee performance.

Disciplinary Referrals Literature

This research directly aligns with previous research regarding disciplinary referrals, including the notion that using positive reinforcement to teach expected behaviors decreases unwanted and problematic behaviors (Adamson et al., 2015). However, it is important to note that there was a substantial difference between minor-level behaviors (e.g., talking out, name calling) and major-level behaviors (e.g., physical

aggression, leaving the classroom) among adults. This study contributes novel info in that positive reinforcement is not an effective stand-alone intervention for more intense behaviors such as physical aggression. Compared to previous research on positive reinforcement and persons with EBD, this research coincides with the perspective that positive reinforcement is an essential tool for increasing wanted student behaviors (Scott & Landrum, 2020).

Social Validity Literature

Finally, this research coincides with a more contemporary approach to social validity, in comparison previous literature on the topic. Previous social validity research within ABA primarily explored the overall perceptions of people around the participants, neglecting to take into consideration the participants views (Carter & Wheeler, 2019). However, a recent paradigm shift within the field of behavior analysis examined the perspective of the participants' (Hill & Breaux, 2021). This research considered both the participants (at the end of the study) and their colleagues (during pre-research).

Contributions to Literature

Overall, this research reinforces the idea that ABA can be utilized in a school setting for more than addressing the behaviors of students with ASD. This research used ABA within the school setting to address the behaviors of personnel rather than students; thus, making this an OBM related approach. Fortunately, there were many positive outcomes from conducting this research. These outcomes include (a) strengths and weaknesses in the procedures and implementation, (b) impact of positive reinforcement,

(c) the residual impact of positive reinforcement on disciplinary referrals, and (d) the social validity of this approach.

Procedures and Implementation

First, it became apparent that conducting a single case study design as rigid as a multiple baseline design is difficult within the context of a school, let alone a school during a pandemic. Although the research team anticipated that COVID-19 would impact the study (e.g., participants being exposed, absence due to children being quarantined), the actual impact exceeded expectations. In the fall of 2021, South Harbor had fewer than 10 cases of COVID-19 between personnel and students. Therefore, it was unforeseen that the entire secondary wing (all 17 students and all but two adults out of eleven) of the building tested positive within the first three weeks of the research. At that time, the school district required personnel to quarantine if exposed to or showing COVID-19 symptoms (e.g., fever, cough, vomiting). Personnel must have been either symptom free for 24 hours or produce a negative COVID-19 test to return to their worksite. To adjust for these circumstances, the study was extended for an additional four days. This necessary extension of the research timeline allowed for enough exposed personnel to return and ensure a minimum of three data points between each phase.

In addition to adjusting the projected timeline for the project, several other factors needed to be considered in response to personnel exposures and positive cases. First, the research team practiced heightened care when entering classrooms to mitigate potential contamination, knowing that their positions as researchers and leadership team members required crossing over between the elementary and secondary building. Researchers

maintained a minimum of six feet between themselves and the participants if not more. Further, in an abundance of caution, many personnel and students began wearing masks again. Masks made it challenging to observe quiet verbal praise and facial expressions (e.g., smiling). As a result of low IOA results, there were multiple observations that the researchers needed to re-conduct to increase validity. Therefore, this experience contributes to the literature in planning for COVID-19 (or other health related) obstacles when conducting research.

Finally, an additional outcome was designing a tracking system for differentiating reinforcement across participants. This tracking tool informed the research team with data identifying which participants were in baseline versus intervention, their schedule of reinforcement, how many days were successfully finished, how they preferred to receive feedback, and what they were working for. To keep track of these variables, a *Google doc* was created with a table outlining these variables (see Table 11). This tool contributes to literature in that previous research does not outline how to organize variables for a multi-person intervention.

Table 11

Participant Reinforcement Information

Participant	Phase	Form of Feedback	Schedule	Progress	Reinforcer
Charsey	Int.	Texting	VR6	1/6	Gift Card
Tina	Int.	Email	VR5	1/5	Goose Pass
Sara	BL	In-Person	N/A	N/A	N/A
Erin	BL	Email	N/A	N/A	N/A
Jack	BL	Email	N/A	N/A	N/A

Note: The table represents a snapshot of Session 16. Charsey and Tina were in the intervention phase, while the other three participants were in baseline. All participants started on a variable ratio of five (VR5; participants could earn reinforcement at four or six). Each time the participant earned reinforcement; the ratio increased.

Positive Reinforcement

Second, all five participants were motivated by the positive reinforcement provided by the primary researcher, as indicated by their increase in performance. Based on the participants' preference assessment given at the beginning of the research, feedback was given in an individualized fashion. For example, Charsey preferred to receive feedback in writing and in the form of a text message daily. At the beginning of each reinforcement cycle, the participants were asked what they wanted to work for (e.g., goose pass, gift card, t-shirt). Accordingly, the primary researcher sent the participants feedback in writing or talked to them at the end of the day, paired with a graphed visual of their performance. Another interesting contribution to the literature is that the participants began seeking the primary researcher in anticipation of their feedback, asking how they did that day. Often, this quick feedback led to discussions about opportunities

to try different approaches, how to utilize differential reinforcement schedules, and how to overcome barriers identified in their BST sessions.

Moreover, in the preference assessment, two of the five participants ranked getting praise from their supervisor as their highest reinforcer, with tangible items as their lowest. However, both individuals selected tangible items to earn as reinforcers rather than opportunities to escape from work tasks (e.g., coverage, late pass, goose pass). Surprisingly, the other three participants did not consistently select reinforcers aligned with their preference assessments. This observation provides further evidence to the literature that motivations are ever-changing (Chazin & Ledford, 2016).

Disciplinary Referrals

Third, there was a noticeable decrease in disciplinary referrals that corresponded with the intervention. Both classroom-based data and school-wide data were reported because two of the participants did not work in self-contained classrooms, and, therefore, the other two participants worked with the entire school. Disaggregation of both classroom-based and school-wide data indicated a noticeable difference between major and minor referrals. A major referral refers to higher intensity behaviors defined by *School Environmental Safety Incident Reporting* (SESIR). These are broken into four levels of ranking (Level I is the most intense and Level IV is the least intense). At South Harbor, common major referrals include behaviors such as bullying, vandalism, fighting, major disruption on campus (e.g., throwing furniture, causing a classroom evacuation), threats, and physical attacks. A minor referral refers to lower-intensity behaviors such as leaving an assigned area, disrespectful language, throwing objects (not targeting people),

work refusal, and minor classroom disruptions (e.g., talking out of turn, interrupting). It should also be noted that mental health-related concerns that resulted in a student being removed from campus under the Baker Act were not counted as disciplinary referrals. A review of the data, there was a larger difference between the minor referrals and the major referrals. There were 41 minor referrals in the second quarter and 20 in the third quarter, resulting in a reduction of 21 minor referrals schoolwide (over 51%).

Meanwhile, there were 108 major referrals in the second quarter and 104 in the third quarter, resulting in a reduction of four major referrals (less than four percent). Further data analysis indicated that this trend was consistent across the disaggregated data among the classrooms. Therefore, the increase in access to positive reinforcement for students was enough to decrease lower-intensity behaviors within the classroom; however, it did not have a large impact on higher-intensity behaviors. This would suggest that once a student has gotten to the elevation level of a crisis, additional de-escalation strategies such as a change in environment, short directives, and visual supports are necessary beyond positive reinforcement to prompt replacement behaviors.

Social Validity

Fourth, all five participants reported using OBM as professional development to be socially significant. Results indicated that 100% of the participants reported positive reinforcement to be important to their work, 100% of the participants reported receiving positive reinforcement and feedback to be motivating, 100% reported feeling respected by the researcher, 80% reported wanting to use an OBM process again, and 100% reported a noticeable difference in the workplace climate. These data suggested that using

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an OBM approach within a school setting is not only an effective approach, but a preferable approach among personnel. This finding was supported by anecdotal information provided by personnel after completing the research. Personnel reported liking the frequency and immediacy of the feedback. An additional contribution to the literature is that some participants questioned why there was a decrease in classroom observations after data collection ended.

In theory, the high social validity results could be due to the individualization of the intervention package. Although all participants received the same amount of feedback and had access to earning positive reinforcement, each participant's feedback and reinforcers were differentiated. For example, Charsey preferred to receive feedback in writing and requested that her feedback come in the form of a text message. In addition, her selected reinforcement varied from week to week. Having the opportunity to earn three reinforcers, she requested a fast-food gift card, goose pass, and a local bakery gift card. In addition, the target behavior for this intervention was a behavioral cusp (i.e., a skill that allows a learner's ability to access a variety of new opportunities; Charlop et al., 2018). Therefore, this is a contribution to the literature because positive reinforcement is a skill that ESPs (and all personnel) can utilize throughout their entire workday rather than at an isolated moment of the day. Finally, the team hypothesized that the participants liked OBM as a form of professional development because it impacted their overall workplace environment. In comparison to building behavioral momentum in instruction, positive energy can become contagious within a classroom setting. Thus, an additional

contribution is that the higher levels of positive reinforcement and focus on good

behaviors, the happier personnel and students tend to be.

Implications for Practice

Study findings indicated that the use of the intervention package and

differentiated approach to providing reinforcement based on preference assessments

yielded positive changes in ESP performance. Furthermore, this approach was deemed

socially significant to the participants and indicated a positive impact on student

performance. As a result, there are further opportunities for professional development,

professionals supporting one another, and practicing shared decision-making. The

following section includes implications for (a) education leaders, (b) special education

teachers, and (c) behavior analysts.

Education Leaders

Educational leaders commonly report feeling ill-prepared to supervise special

education programs (Macedonia, 2021). However, this study indicated that educational

leaders collaborating with behavior analysts and special educators can make a

monumental difference in special education programming. For this to occur, educational

leaders working with special education programs need to be receptive to learning about

them and be open to practicing shared decision-making (Parham et al., 2020). Shared

decision-making requires leaders to share power rather than wield it (Parham et al.,

2020). For example, if a special education teacher were to approach an education leader

about a school policy which does not equitably meet the needs of SWDs, that leader

could collaborate with the teacher (and other practitioners if needed) to alter the policy.

Next, conducting OBM as a form of professional development with personnel requires ongoing observations, feedback, and planning (Hill, 2019; Reid et al., 2012). Thus, educational leaders' routine presence in the classroom had a positive impact on personnel and student performance. Depending upon the culture of the school, education leaders' presence can be seen as either controlling or collaborative (Bolman & Deal, 2019). However, being present within the classroom can be mutually beneficial, as educational leaders can see firsthand successes and challenges and provide feedback or direct support. Further, this experience allows educational leaders to better understand and address the needs of personnel and students. In addition, when teachers approach their school's leadership, the educational leaders can develop a better contextual understanding of what is going on and the practicality of the demands placed on their personnel.

In addition to an overall better understanding of the classroom's dynamics, being present in the classroom environment more often makes it easier for education leaders to manage and evaluate personnel. Similarly, educational leaders' presence in classrooms can serve as an antecedent strategy for expected behaviors (e.g., proximity). This approach allows for leadership to actively engage when there is an opportunity to provide positive reinforcement or corrective feedback if necessary. By making themselves available to provide real-time positive reinforcement to personnel and acknowledge their efforts, educational leaders can become more positive and respected figures (Bolman & Deal, 2019). In tandem with managing personnel, attending classrooms on a routine basis can allow educational leaders to notice qualitative trends within the classrooms that may

be overlooked in data sets. Memorializing these data by taking field notes or completing

fidelity checklists during classroom walk-throughs to use for data analysis and reflection

can further inform specific feedback to support classroom practices. For example, data

may indicate that a particular student is having a behavioral outburst every day at 10:00

during spelling instruction. Similar to data collection procedures associated with a FBA,

an observation at that time may indicate that the behavior is happening due to issues such

as the presentation of the work, the difficulty of the work, or the environmental

arrangements. Noticing these trends allows educational leaders to better plan professional

development for personnel; thereby helping students meet success more often.

Special Education Teachers

As this study demonstrated, special education teachers collaborating with

education leaders and behavior analysts can result in many benefits. To begin,

participating in collaborative relationships provides a platform for teachers to become

active participants and advocates for themselves and their students. For example, if a

teacher were to approach their school's leader with concerns about negative ESP

interactions with students in their classroom (such as in this study), then the teacher(s)

could be empowered by the school's leadership by addressing this issue together. In

doing so, the teacher(s) may gain a better understanding of the larger-scale picture (e.g.,

politics, human resource requirements, ethical requirements), which is critical because

teachers need to have a general understanding of the interconnectivity of a school.

Moreover, collaborating with education leaders and behavior analysts on changing ESP's

performance provides an opportunity for the teachers to step into a leadership role by

providing explicit mentoring, teaching, and feedback to ESPs rather than expecting them to know how to perform.

Furthermore, teachers taking partial ownership and responsibility for the professional development of ESPs yields many benefits. First, by working together more systematically and building capacity in ESPs, teachers working in collaboration with others are more likely to be successful within the classroom environment. An improvement in ESP performance creates an opportunity for students to be more successful. Second, increasing the capacity in ESPs lessens the workload on the teacher. For example, an ESP learning how to manage a small group of students during instruction rather than exclusively in one-on-one interactions creates an opportunity for differentiated station-based teaching within a classroom setting. Third, by assisting ESPs in reaching a point of self-actualization and success in their work, paired with positive reinforcement, the relationship with the teacher may become stronger and more collaborative.

Finally, by collaborating with education leaders and behavior analysts, teachers may grow professionally by learning how to implement professional development with those they supervise. Beyond advocating for their own needs and the needs of their students, opening their classroom doors to education leaders in a more welcoming and collaborative manner can provide an opportunity to receive targeted support. For example, if a teacher is struggling to teach a group of students the concept of place value, an administrator might be able to co-teach with them or provide resources to help get the concept across (e.g., math coach, manipulatives, academic interventions). As previously

noted, if an education leader is in the classroom more often and understands the daily needs of the teacher and students, the leader becomes better equipped to address problems as they arise. In addition, collaboratively working with a behavior analyst could provide an opportunity to learn new skills (e.g., addressing difficult behaviors, differential reinforcement strategies, teaching protocols) in addition to experience in coaching adults.

Behavior Analysts

This study provides further evidence that collaborating with education leaders and special education teachers creates an opportunity to become more knowledgeable about school policies and procedures. According to *Burning Glass* (2015), 46% of BCBAs work are in a healthcare or clinical setting which insinuates that approximately half of BCBA candidates are being supervised within those settings. In addition, some BCBAs receive a Master of Science (M.S.), which emphasizes the development of life skills such as life-skills and compliance-based behaviors. In contrast, others receive a Master of Education (M.Ed.), which emphasizes the development of skills required to provide academic instruction and teaching school-based expectations. As a result, some BCBAs working in school settings may not be effectively prepared to navigate the complexities of school systems. Therefore, participating in collaboration through OBM within the school context benefits a behavior analyst in many ways. Collaboration among education leaders, behavior analysts, and special education teachers aids behavior analysts in gaining a better understanding of school and classroom dynamics versus a more clinical setting. For example, a behavior analyst may be accustomed to conduct controlled

functional analyses to determine the function of a behavior. Although, this approach is not practical in a school setting.
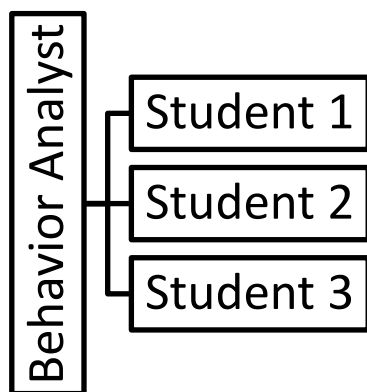
Participating in work that targets the behaviors of adults rather than students further validates the functionality and versatility of ABA. As noted in Chapter Two, there is a general misconception that ABA is synonymous with special education and primarily for students with ASD. While behavior analysts may use ABA to work with SWDs, it is not the only subspeciality within ABA (Applied Behavior Analysis Subspecialty Areas, 2021). Collaboration can clarify misconceptions about ABA and expand considerations for use and provide an opportunity for teachers to learn how to intentionally to use ABA principles intentionally in their daily practices with students.

Beyond building a better understanding of ABA, there are also relationship benefits for a behavior analyst to collaborate. Depending upon the school structure, schools often hire BCBAs through the special education department at the central office level. Therefore, when behavior analysts work within schools, they act in a consultation role rather than a hands-on role. Unfortunately, this hierarchy means that teachers tend not to view behavior analysts as a figure of authority, allowing teachers to disregard their advice. In addition, there can be instances in which the principal undermines a behavior analyst. For example, if a student's behavior reaches crisis despite an intervention plan created by a behavior analyst (e.g., the student hits an ESP when blocking the student from eloping), a teacher may immediately consult with an administrator who may overrule the intervention plan instead of consulting with the behavior analyst to modify the plan, as needed. When this occurs, the continuity of the plan is broken, and the

behavior could be unintendedly reinforced. On the other hand, if a behavior analyst develops a relationship with both stakeholders, open communication can ensure that the intervention plan is designed to be socially acceptable and realistic to implement. Further, collaborating as a team to discuss details related to topics such as implementation in advance of the onset of the plan can ensure greater support from the building's leaders in implementing the plan.
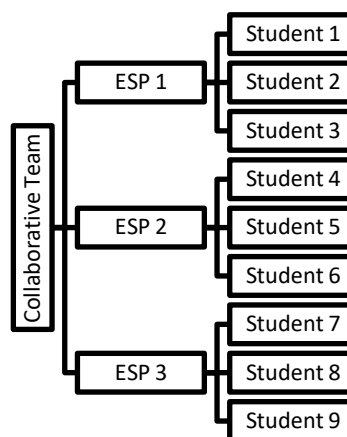
Finally, collaborating with teachers and education leaders rather than serving in a one-way consultation role (e.g., giving advice and expecting it to happen) allows for those giving consultation to pair with the teachers. Pairing is the process of building rapport and becoming a positive reinforcer yourself (Howell, 2019). Like behavior analysts working one-on-one with a client in a clinical setting, colleagues who are paired (or have formed relationships) are more likely to have a respectful and collegial relationship (Soyers, 2016). Moreover, creating an effective partnership with multiple teachers allows behavior analysts to have a broader impact within a school system (see Figure 20). As this study demonstrated, with positive reinforcement provided by five ESPs ultimately impacting students attending South Harbor, in lieu of working one-on-one with a student at a time, a behavior analyst could positively impact dozens of students at a time. This impact can be made through a hierarchy of supervision in which behavior analysts provide the requisite skills and supervision to personnel who work with multiple students throughout the day.

Independent Service Model   **OBM Service Model**

Note:This figure visually represents the difference between a behavior analysts impact working alone versus collaborating with education leaders and special education teachers.

Figure 20

Visual Impact of Collaboration versus Independent Work

Implications for Policy

Although the OBM-oriented intervention was successful in increasing ESPs' rates of positive praise and decreasing student referrals, policy changes are necessary to successfully scale the intervention. This section focuses on policy implications related to: (a) PD at the local level (GSSD [Gulf Shore School District]), (b) Higher education programs at the state level, and (c) professional organization standards at the national level.

Local Policies

Findings from this study highlight a need to explore opportunities to integrate a variety of PDs among education leaders, special education teachers, and behavior

analysts to proactively prepare them for collaboration in support of SWDs. First, emerging education leaders (specifically candidates for building principals and assistant principals) from GSSD participate in a district-designed "principals pool," a cohort-model PD designed to prepare candidates who have completed their administrative endorsements and are actively seeking a school-based administrative position. Each candidate cohort receives ongoing PD tailored to prepare candidates to lead schools. For example, discussions include topics such as processing disciplinary referrals, leading professional development, collaborating with community-based resources, and facilitating in school-wide MTSS (multi-tiered systems of support). While this PD includes information regarding special education, the information covered is a broad overview of the special education process and local education agency (LEA) training. LEA training prepared education leaders for their role as the LEA representative in an IEP meeting. Therefore, an implication is that GSSD should require building principals and assistant principals supervising special education programs to attend an ongoing PD series in which they can learn in-depth information about supervising special education programs.

In addition, there is a need for special education teachers to receive training on leading adults (i.e., ESPs) within their classrooms. Therefore, another implication is that the GSSD special education department should develop a PD series for self-contained special education teachers who supervise and collaborate with ESPs. This PD could include information regarding setting expectations for ESPs (e.g., what to accomplish in an academic station), establishing routines (e.g., how to collect and input data), conflict

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resolution (e.g., addressing an experience they didn't like), delegating responsibilities (e.g., creating a plan for adults to complete weekly goals), and coaching (e.g., providing feedback). For example, a PD session may guide teachers on creating a mini-PD for their ESPs to run an academic center or managing the behavior of a small group during stations. These experiences could also motivate special education teachers to pursue administrative endorsements themselves, creating a line of succession. Therefore, a policy implication is that GSSD should create a clear path for teachers who engage in PD to pursue education leadership endorsements.

Next, there is also a need to provide more structured professional development for BCBAs working within the school setting; particularly if they received their initial training and supervision outside the school setting (e.g., a clinic). This training could include broad concepts such as the organizational hierarchies, roles, responsibilities, policies, and processes. In addition to professional development for existing BCBAs, school systems need to consider the competitive market for BCBAs. According to the BACB (2020), there is a rising demand for behavior analysts across the nation. In 2020, there were 33,996 vacancies posted, which is an increase from the 28,967 jobs posted in 2019 (Behavior Analyst Certification Board, 2020). In addition to preparing BCBAs to navigate the school system more effectively, it is imperative that school systems consider increasing pay and incentives for working within a school system. Comparatively, BCBAs can earn over $100,000 a year through private practices with paid CEUs (continuing education units) and recertification costs (Action Behavior Centers, 2021; Elemy, 2020). In addition, schools could create internal succession plans which entail

incentivizing special education teachers to pursue BCaBA or BCBA certifications. This could include assisting with payment for coursework in approved ABA programs and providing supervision hours.

Then, GSSD may emphasize PD for ESPs mirroring the PD structure referenced above for special education teachers. To be hired as an ESP within the district, applicants are required to have a minimum of 60 college credits (the equivalent of an associate degree) or pass the *WorkKeys* assessment. The *WorkKeys* assessment measures workplace skills such as reading, writing, mathematics, and technology competency (ACT, n.d.). Therefore, applicants for ESP candidates do not necessarily have any prior experience or preparation to enter the classroom. However, once hired, they are expected to be capable of supervising students, managing student behavior, providing academic instruction, and understanding the intricacies of a school system. When taking an ESP position within the special education department, these responsibilities increase based upon the intensity of student needs (e.g., extreme behaviors, medical concerns, communication barriers) as well as continuous data collection. Currently, the school district only requires ESPs to participate in one in-service day prior to the beginning of the year and one full day of PD throughout the school year. For new personnel, these two days are not enough time to provide this level of content. Additionally, new personnel are not expected to set professional learning goals or partake in the professional development of their choice throughout the school year as teachers or other professional positions are required to. However, if the school district invested more in building the capacity of ESPs, student needs could be better met (Kansas State Board of Education, 2018). In

addition, this could lead to ESPs pursuing teaching degrees, thus producing more internal

candidates for vacancies (Delgado et al., 2021). Ultimately, if ESPs are taught more

skills, they are likely to be less frustrated in their work and if they are given a pathway

leading to promotion, they are more likely to be motivated.

Finally, it is imperative for GSSD to create opportunities for cross-role PD.

Although each role may receive specific PD tailored to their needs, the school district

needs to emphasize the expectation for collaboration. Therefore, providing cross-role PD

can begin to foster relationship building, understanding, and collaboration across multiple

practitioner roles (e.g., education leaders, teachers, behavior analysts, coaches, ESPs).

State Policies

Next, there are several opportunities to create statewide policies to benefit SWDs.

As noted, education leaders are not required to have experience in special education.

They may enter their position with only a surface level knowledge of special education

programs (e.g., a general education teacher becoming an assistant principal). Therefore, a

state-level implication is to examine the current standards that guide higher education

institutions to create administrative endorsement programs. These standards should

encourage the integration of more or different coursework which better prepares master's

students seeking an educational leadership degree. For example, George Mason

University (GMU) requires students to participate in a minimum of eight internship hours

participating in annual IEP meetings (GMU Education Leadership Program Faculty,

2018). However, eight hours does not adequately prepare candidates with the needed

oversight to supervise special education programs.

In addition to enhancing education leaders' educational programming, more universities should consider the differences between offering a BACB-approved course sequence between a Master of Education (M.Ed.) and a Master of Science (M.S.). In the example above at GMU (n.d.) students take seven ABA-related courses and three education-related courses, earning a M.Ed. Whereas students enrolled in M.S. Programs may take seven ABA-related courses and three psychology-related courses (University of Alabama Huntsville, n.d.). It is important to note that there is a difference between the nature of these programs, as an M.S. program may better prepare candidates to work in a clinical setting while a M.Ed. program may better prepare candidates to work in a school setting.

Beyond preparation at the university level across the state, the state government could provide supplemental funding to schools specifically to provide behavior analyst support. Currently, schools can either fund these positions with their operating budget or supplemental grants. For example, schools such as GSSD utilize money from the IDEA grant to pay for BCBAs (GSSD Fiscal Year 2023 Budget, 2022). However, utilizing grant money versus operating funds limits the uses of the BCBA to only working with SWDs. If the state were to provide school districts with money specifically for hiring BCBAs, then they could be utilized to work with various populations of students and personnel. Furthermore, the state should consider the benefits of providing grants and scholarships to those seeking special education, education leadership with a concentration in special education, and behavior analysis degrees. With shortages in both special education, special education leadership, and behavior analysis, providing a means

to pay for these degrees could lead to more qualified candidates (Behavior Analysis Certification Board, 2021; Goldhaber et al., 2021; Ruggirello, 2022). Another opportunity is for state universities to collaborate with school districts to create cohort programs (e.g., a group of people that start the same program and complete it together) for school district employees and agree to pay for the program contingent upon a time served within the district (e.g., signing a contract that agrees to stay for five years within the district).

National Policies

Finally, there are numerous opportunities to change national policies to better support education leaders, special education teachers, and behavior analysts. Although all three stakeholders are positively impacted by collaborating, behavior analysts do not have support from the BACB on a national level when it comes to working with the school system. Therefore, the BACB (The Behavior Analytic Certification Board) should consider altering the code of ethics or creating a separate code of ethics for behavior analysts who work in schools. This is a needed action because the current code of ethics does not always align with school district policies and practices. For example, BCBAs working within a clinical setting are expected to request consent for every change or adaptation to an intervention plan, while a teacher may implement tools such as a token board without parent permission because it has been identified as a best practice.

Although there is a governing board for behavior analysts, this board can only govern those with board certifications (e.g., BCBAs, BCaBAs, RBTs). Moreover, this organization cannot have the ability to provide funding on a national level. Therefore, an

implication for federal policymakers (particularly working within the United States Department of Education) is to consider writing policies that outline justifications for behavior analysts in schools and allocate targeted funding for schools to hire behavior analysts. Also, the U.S. government should consider providing grants and scholarships for those seeking master's degrees in ABA programs, as there is a national shortage of behavior analysts (Behavior Analyst Certification Board, 2021).

In conjunction with allocating federal funds to hire behavior analysts, there is a desperate need to increase the funding to school systems and special education programs (Barrett, 2018). In 2022, the COVID-19 pandemic exacerbated an ongoing retention issue with public school employees (COVID Response Toolkit, 2020). Throughout the pandemic, public school employees left the field of education in droves (Edelman, 2022). This has been due to a rise in expectations (e.g., implementing changing COVID protocols, virtual instruction) and a decline in employees' mental health (Baker et al., 2021; Reily, 2020). Also, many leave the field due to the unlivable wages and lack of funding for supplies (Long, 2017). Therefore, policymakers should consider making it a priority to ensure schools receive adequate funding for operations and human resources, as well as strive to fully-fund IDEA. Similar to behavior analysts, the federal government should also consider providing grants and scholarships to those seeking teaching degrees (especially special education) and administrative endorsements to combat national shortages.

A final implication is for the national organizations that provide standards for education leaders, special education teachers, and behavior analysts' higher education

programs (e.g., NPBEA, CEC, and BACB) to revise their standards. These revisions would assist universities in designing undergraduate and graduate programs to get these qualifications. For example, the CEC could add more specific language to their standards, which guides students to understanding that they will need to lead both students and support personnel within a classroom setting. Universities could then integrate specific experiences in which students could provide training, feedback, and support to another adult within their student teaching classroom. Revisions across all three sets of standards would better prepare practitioners to collaboratively meet the needs of SWDs collaboratively.

Limitations

First, it should be noted that there were existing mutual relationships within this research. For example, the primary researcher was one of two site-based administrators on campus. Having a circumstance that power dynamics and supervisory relationships are present are not conducive for research because they could potentially skew results. For example, the participants may do what is being asked of them simply because their boss is asking, not because it is empirically based. To address power dynamics, participants who volunteered to participate were assigned to the other building administrator as their direct supervisor prior to the start of the study. In addition, other research team members (e.g., the FOI and IOA observers) worked at South Harbor as members of the leadership team. Therefore, it should be recognized that there was an existing power imbalance between the researchers and the participants.

In addition to balancing professional and academic ethical expectations (e.g., remaining neutral as a researcher but supportive as an educational leader), the research team was required to balance their time as a professional in the field and as a member of the research team which caused for disruption in the research process. There were multiple instances during data collection when a session was either restarted or could not be collected due to situational circumstances such as a student going into a crisis in the middle of an observation, unexpected meetings, and emergencies. For example, the primary researcher and the IOA observer started data collection in a classroom and were interrupted by a student at another table (with whom the study participant was not working) had a behavior outburst (throwing chairs, punching people, and engaging in self-injurious behavior). Therefore, due to their professional and ethical responsibilities of ensuring the safety of the students and the personnel, the researchers were required to stop data collection and pivot to their professional roles by assisting with de-escalating the student and evacuating the classroom. In addition, the researchers' professional roles also prevented a consistent observation schedule (e.g., every day from 7:15-7:30 a.m.), as the nature of their roles required that they respond to classrooms as needed. In addition, there were sessions in which one participant could not be observed, even with multiple attempts because of multiple student crises. These interruptions in data collection prevented a continuous intervention and response rate, causing potential discrepancies (e.g., extreme high and low response rates) in the data.

Next, personnel working at South Harbor are required to complete trauma-informed practices and *Safety Care* Training. *Safety Care* covers many ABA principles

including the importance of extrinsic motivation, positive reinforcement, and differential reinforcement. Throughout the course of this research, three of the five participants went through *Safety Care* training, and all five participants went through trauma-informed practices PD. This curcumstance may be a limitation because they were exposed to similar content and feedback that was integrated into the methodology of this study which all the participants were not exposed to systematically.

Following the PD, COVID-19 significantly impacted the original timeline and consistency of implementation of this research. There was a COVID-19 outbreak in which a large portion of the school was infected with the virus at the onset of this study. During this time, all five participants were exposed or positive within a two-week timeframe. Therefore, every effort was made to continue with best research practices (e.g., collecting a minimum of three to five data points in between phases; Kratochwill et al., 2010), while accommodating local and school district COVID-19 protocols (e.g., personnel were required to quarantine if showing signs until either fever free for 24 hours or a negative COVID test; GSSD website, n.d.). This may have been a limitation in that the study was extended for an unknown amount of time until the participants could return to work safely. Upon returning to work, a portion of the data should be examined with caution as facial expressions and soft-spoken comments could have been missed due to participants wearing masks.

Finally, the personal bias of the primary researcher should be considered. At the time of this study, the primary researcher was a sitting administrator, a licensed teacher (in multiple subject areas, including special education), a BCBA, and a Ph.D. candidate

in Education Leadership with a secondary emphasis in Special Education. Although qualified for these four positions, he only assumed the role of researcher and administrator for the purposes of the study. That withstanding, he did have perspectives and understanding of each stakeholder's roles other than the ESPs. In addition, the primary researcher had a full semester in which he worked as an administrator in the school prior to the start of the study. Therefore, he was aware of additional information and variables related to each participant's lives beyond what a typical researcher would have access. This is a limitation that the primary researcher had personal biases towards each participant and a mutual relationship.

Future Research

This study provided an important, but small representation of what OBM can be used for within a school setting. As noted at the end of Chapter Two (see page 74), there are multiple opportunities to utilize OBM with ESPs on skills such as decreasing inter-response time, improving fidelity of implementation, and attendance. Further, there are opportunities for ABA to be used for parent training, working with various student populations (beyond SWDs), and other personnel (e.g., teachers, coaches, secretaries). Therefore, subsequent sections describe recommendations for future research regarding: (a) suggested improvements and (b) unexplored ideas in which OBM research could be explored further in a school setting.

Suggested Improvements

As noted in the limitations, unforeseen circumstances caused disruption to data collection. Future researchers should develop protocols for research procedures in the

event of a major disruption (e.g., COVID-19 outbreak) during the study. This protocol should include details such as when a participant should be removed from the participants and how long a phase should be extended if there are disruptions. In addition, future researchers should plan for more time than needed. For example, this research originally required 30 days of data collection to collect all five baseline and intervention phases. Therefore, the research team should have planned for approximately 45 days to accommodate unanticipated events.

Next, future researchers should attempt to collect data at a consistent time/subject. While this study allowed the research team to analyze if the skill was generalized across various times of the day and settings, it is recommended to look at a specific time and place first before generalizing the skill (Dalphonse, n.d.). Therefore, those collecting data would either need to be independent of the school setting or have data collection as a scheduled responsibility during their work schedule. This would prevent some of the data that could not be collected due to student crisis, emergencies, or other unplanned events that the researchers needed to address themselves.

Beyond the suggested improvements, there are numerous opportunities to expand this approach across a school system, from the micro-level (e.g., within the same school) to the macro-level (e.g., multiple schools across the country). To accomplish this, the research would need to systematically build to gain validity and demonstrate generalization of these methods. This process would include starting within the same school district (even the same school), moving to the state level, and then moving towards a national-scale. In addition, this study could be replicated with different

populations of participants (e.g., race, age, years of experience) and different settings (e.g., students, grades). Next, this study could be continued, looking at the long-term effects of the intervention to see if the skills are naturally maintained or if they require a thin rate of reinforcement to sustain. Finally, this process could be expanded by adding a qualitative component (e.g., doing independent research that does not provide feedback interviewing the participants after completion).

Unexplored Ideas

As discussed (see page 74), there are opportunities to implement ABA with parents, students, and personnel. Considering that this study investigated the use of an OBM package including (a) positive reinforcement, (b) token economy systems, and (c) visual feedback, future research could include using ABA principles with special education personnel on a variety of skills. Examples of targeted behaviors for participants include decreasing inter-response time, increasing fidelity of implementation in scripted instructional programs or behavior plans, increasing fluency in skills (e.g., grading papers, entering data), and improving validity of data.

Once this research has been replicated across various schools, school settings (e.g., elementary, middle, high school), and skills, it is recommended that the methods are utilized with different departments (e.g., general education, English Language Learners, office staff). Then, future research could continue to build across multiple school districts within a state, and multiple schools across the country.

Conclusion

In conclusion, this study contributed to the existing body of ABA and education research, in that, the data indicates OBM can be utilized as a tool to facilitate a collaborative working relationship between education leaders, special education teachers, and behavior analysts. This study indicated that the use of positive reinforcement, a token economy system, and visual feedback increased ESPs rates of positive praise which were sustained over time. Next, this study indicated that the use of OBM within a school setting had positive impact on student performance relative to behavior. Finally, this study provided evidence that the use of OBM is a socially significant tool for providing PD to school personnel.

Although this study provides a very specific and small sample of the capabilities of OBM in the school setting, this study provides insightful and forward-thinking methods to addressing the ongoing issues in schools around compliance, safety, teacher support, and student support. Hopefully, this study acts as a catalyst to not only utilize ABA in schools on a broader basis, but also encourages education leaders, special education teachers, and behavior analysts to merge their silos more thoughtfully and systematically by working together to meet the needs of students. Together, education practitioners have the capacity to level the stool and ensure that every student succeeds.

Appendix A: IRB Approval Letter

GEORGE MASON UNIVERSITY

Office of Research Integrity and Assurance

Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030
Phone: 703-993-5445; Fax: 703-993-9590

DATE: January 21, 2022

TO: Regina Biggs, PhD
FROM: George Mason University IRB

Project Title: [1826422-1] Merging the Silos to Support Students: Education Leadership,
                          Special Education, and Applied Behavior Analysis.

SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: January 19, 2022
REVIEW TYPE: Administrative Review

REVIEW TYPE: Expedited review category # 5 & 7

Thank you for your submission of New Project materials for this project. The George Mason University
IRB has APPROVED your submission. This submission has received Administrative Review based on
applicable federal regulations.

**You are required to follow the George Mason University Covid-19 research continuity of
operations guidance. You may not begin or resume any face-to-face interactions with human
subjects until (i) Mason has generally authorized the types of activities you will conduct, or (ii) you
have received advance written authorization to do so from Mason's Research Review Committee.
In all cases, all safeguards for face-to-face contact that are required by Mason's COVID policies
and procedures must be followed.**

Please remember that all research must be conducted as described in the submitted materials.

Please remember that informed consent is a process beginning with a description of the project and
insurance of participant understanding followed by a signed consent form unless the IRB has waived the
requirement for a signature on the consent form or has waived the requirement for a consent process.
Informed consent must continue throughout the project via a dialogue between the researcher and
research participant. Federal regulations require that each participant receives a copy of the consent
document.

Please note that any revision to previously approved materials must be approved by the IRB prior to
initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED
adverse events must be reported promptly to the IRB office. Please use the appropriate reporting forms
for this procedure. All FDA and sponsor reporting requirements should also be followed (if applicable).

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Generated on IRBNet

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This study does not have an expiration date but you will receive an annual reminder regarding future requirements.

Please note that all research records must be retained for a minimum of five years, or as described in your submission, after the completion of the project.

Please note that department or other approvals may be required to conduct your research in addition to IRB approval.

If you have any questions, please contact Michelle Walkerstedt at (703) 993-9628 or mwallers@gmu.edu. Please include your project title and reference number in all correspondence with this committee.

GMU IRB Standard Operating Procedures can be found here: https://oria.gmu.edu/topics-of-interest/human-subjects/

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.

Appendix B: Data Sheet

FREQUENCY DATA

Date: _____

Target Behavior: Positive Praise

Operational Definition: is defined as providing verbal or physical behaviors which indicate the learner did something accurately. Examples include statements (e.g., "I like how focused you are!"), actions (e.g., thumbs up, high-fives, pat on the back), providing access to items (e.g., giving them toys, stickers) or providing students with an earned break (e.g., going to the motor room, playing a game together). Nonexamples include providing corrective feedback (e.g., "you should have," or "next time you should try") or providing feedback in the form of a reprimand (e.g., "No," or "How many times have I told you?").

Directions:

1. Fill out one copy of this data sheet for each **day,** which includes all participants.
2. Report to the first identified classroom in the observation schedule.
3. Once you sit, begin tallying the number of statements of praise and statements of corrective feedback/punishment you hear by the participant.
4. Once you hear five statements, stop.
5. Calculate the percentage of positive praise observed using the equation below.

Equation:

$$\frac{Number\ of\ Positive\ Praise}{Total\ Number\ of\ Oppertunities\ (5)} \times 100 = \%$$

Data:

Participant	Positive Praise	Corrective Feedback	Percentage of Positive Praise
Example 000	I	IIII	*20%*
001			
002			
003			
004			
005			

Observer Initials: _____

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Appendix C: Demographic Survey and Preference Assessment

Demographic Survey & Preference Assessment

Please note that your name will be removed from all information throughout the project and you will be assigned a pseudonym to maintain confidentiality.

1. Name:

_____

Demographic Survey

2. Please identify your age range.

Mark only one oval.

- ( ) 18-24 years old
- ( ) 25-30 years old
- ( ) 31-35 years old
- ( ) 36-40 years old
- ( ) 41-45 years old
- ( ) 46-50 years old
- ( ) 51-55 years old
- ( ) Over 55 years old

3. What gender do you identify with the most?

Mark only one oval.

- ( ) Male
- ( ) Female
- ( ) Trans-gender
- ( ) Non-binary
- ( ) Prefer not to say

4. Please select your race:

Check all that apply.

- [ ] Black or African American
- [ ] Asian
- [ ] White
- [ ] American Indian or Alaska Native
- [ ] Native Hawaiian or Other Pacific Islander
- [ ] Other: _____

5. Please select your ethnicity:

   Mark only one oval.

   ⬭ Hispanic or Latino

   ⬭ Not of Hispanic or Latino origin

6. Please select your level of education

   Mark only one oval.

   ⬭ High school diploma/GED

   ⬭ Some College

   ⬭ Associates Degree

   ⬭ Bachelors Degree

   ⬭ Masters Degree

7. How long have you worked in a school setting?

   _____

8. What is your current role?

   Mark only one oval.

   ⬭ Instructional Behavior Assistant

   ⬭ Behavior Technician

   ⬭ Education Support Professional (e.g., Clerk, Secretary)

   ⬭ Teacher

   Preference Assessment

   > The following questions will provide the primary researcher with input on your preferences regarding feedback and preferred incentives.

9. How do you prefer to receive feedback?

   Mark only one oval.

   ⬭ Hand written

   ⬭ In an email

   ⬭ Face-to-face

10. Where do you like to receive feedback?

    Mark only one oval.

    ⬭ In the classroom

    ⬭ In the hallway or breezeway

    ⬭ In an office space

11. How often do you like to get feedback?

    Mark only one oval.

    ⬭ Daily/Very often

    ⬭ Neutral

    ⬭ Not very often/weekly

12. When do you prefer to get feedback?

Mark only one oval.

( ) Immediately
( ) That same day
( ) Within 2-3 days

13. Who do you like to receive feedback around?

Mark only one oval.

( ) In the moment, in-front of my peers and students
( ) In private, one-on-one
( ) In front of staff only

14. What motivates you at work?

Check all that apply.

☐ Getting out early or extra time
☐ Items such as t-shirts, gift cards, etc.
☐ Praise from my supervisors and peers

15. Please rank the following items in the order in which you are motivated to work for them.

Mark only one oval per row.

	Gift Cards	T-Shirt or Hope Horizon Gear	Coffee or Breakfast (e.g. donuts, bagels)	Being able to leave campus for lunch	Goose pass	Coverage for a 90-minute period of the day	Praise from my supervisors	Praise from my peers	Getting to come in late
First Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Second Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Third Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Fourth Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Fifth Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Sixth Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Seventh Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Eighth Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )
Ninth Choice	( )	( )	( )	( )	( )	( )	( )	( )	( )

16. What is your favorite place to eat, locally?

_____

17. What is your t-shirt size?

    Mark only one oval.

    ( ) XS
    ( ) S
    ( ) M
    ( ) L
    ( ) XL
    ( ) XXL

18. What is your favorite color?

    _____

19. What is your favorite candy or snack?

    _____

20. Is there anything else that you wish to share about what would motivate you at work?

    _____
    _____
    _____
    _____
    _____

Appendix D: Professional Development

JARED L. STANLEY

INCREASING RATES OF POSITIVE REINFORCEMENT

Why are we doing this?

Positives
-You have learned a lot in a small amount of time!
-You are starting to develop good relationships with the students.
-You are starting to take more initiative as you get comfortable and offer good suggestions.

Areas of Growth
-Recognizing students correct behaviors.
-Providing explicit praise (e.g., Nice work _____).
-Limiting comments during times of escalation.

PART 1

Rationale

Positive reinforcement is one of the most effective ways to teach students new skills and maintain previously learned skills over time.

Punishment (e.g., stop doing that) does not teach students replacement behaviors.

PBIS recommends a ratio of 4:1 (positive reinforcement: corrective feedback).
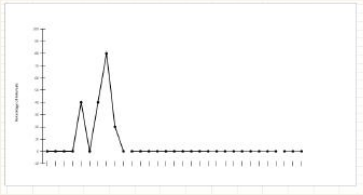
Target Behavior

Positive praise is defined as providing verbal or physical behaviors which indicate the learner did something accurately.

Examples include statements (e.g., "I like how focused you are!"), actions (e.g., thumbs up, high-fives, pat on the back), providing access to items (e.g., giving them toys, stickers) or providing students with an earned break (e.g., going to the motor room, playing a game together).

Nonexamples include providing corrective feedback (e.g., "you should have," or "next time you should try") or providing feedback in the form of a reprimand (e.g., "No," or "How many times have I told you?").

Current Performance

Description

In an effort to meet ethical and legal requirements, increase staff morale, and decrease student discipline referrals; we will be focusing on our delivery of positive reinforcement.

In doing this, we will be focusing on decreasing the amount of corrective feedback/punishment we deliver (e.g., "stop doing that.") and increasing statements of praise.

Research shows that positive reinforcement is quicker and has more long-term impact than punishment (Iwata, 1988; Payne & Dozier, 2015; Scott et al. 2021; Stangor & Walinga, 2014).

Personal Barriers

- A
- B
- C
- D

Strategies to overcome barriers

PART 2

Questions?

What do you need to do?

Over the next 5 weeks, you will be observed once a day at random times by myself or Kristen.

Your performance will be reported in a percentage and graphed. This graph will be shared with you daily by email.

You will be given a punch card. For every 4-6 punches, you will earn your choice of a gift card, goose pass, t-shirt, coffee, candy, etc.

Goal Setting

Given visual feedback and a token economy system, I will increase rates of positive reinforcement to 80% by March, 2022.

Any other questions?

Thank you!

Appendix E: FOI Checklist

Fidelity of Implementation Checklist

Thank you very much for your participation in this ongoing research project! To complete the study, please answer the following five questions. Please note that your responses will be anonymous.

1. Session Number *

   _____

2. 1. The researcher opened with a positive and empathetic statement. *

   Mark only one oval.

   ◯ Yes

   ◯ No

3. 2. The researcher provided the participant with a rationale for the session.

   Mark only one oval.

   ◯ Yes

   ◯ No

4. 3. The researcher provided the participant with a written summary of the target replacement behavior.

   Mark only one oval.

   ◯ Yes

   ◯ No

5. 4. The researcher provided a visual to the participant (e.g., token economy system)

   Mark only one oval.

   ◯ Yes

   ◯ No

6. 5. The researcher provided a verbal description (matching the written materials).

   Mark only one oval.

   ◯ Yes

   ◯ No

7. 6. The researcher opened a discussion to identify potential barriers for the staff member.

Mark only one oval.

◯ Yes
◯ No

8. 7. The researcher and staff member then identified two strategies to overcome these barriers (e.g. use of a timer).

Mark only one oval.

◯ Yes
◯ No

9. 8. The researcher prompted for clarifying questions.

Mark only one oval.

◯ Yes
◯ No

10. 9. The researcher prompted the staff member to retell the expectations and explain the protocol.

Mark only one oval.

◯ Yes
◯ No

11. 10. The researcher collaboratively established a goal for the participant.

Mark only one oval.

◯ Yes
◯ No

12. 11. The researcher prpmpted the participant to ask clarifying questions.

Mark only one oval.

◯ Yes
◯ No

13. 12. The researcher closed with a positive and supportive statement.

Mark only one oval.

◯ Yes
◯ No

Appendix F: Social Validity Survey

Social Validity Survey

Thank you very much for your participation in this ongoing research project! To complete the study, please answer the following five questions. Please note that your responses will be anonymous.

1. I feel like the behavior addressed in this study is important to my work.

   Mark only one oval.

   ◯ Strongly disagree
   ◯ Disagree
   ◯ Neutral
   ◯ Agree
   ◯ Strongly agree

2. I feel more motivated to come to work after participating in this study.

   Mark only one oval.

   ◯ Strongly disagree
   ◯ Disagree
   ◯ Neutral
   ◯ Agree
   ◯ Strongly agree

3. I felt respected during the feedback sessions with the primary researcher.

   Mark only one oval.

   ◯ Strongly disagree
   ◯ Disagree
   ◯ Neutral
   ◯ Agree
   ◯ Strongly Agree

4. I want to work on other goals in this form of professional development.

   Mark only one oval.

   ⬭ Strongly disagree

   ⬭ Disagree

   ⬭ Neutral

   ⬭ Agree

   ⬭ Strongly agree

5. The behavior addressed in this study has made a difference in the overall workplace environment.

   Mark only one oval.

   ⬭ Strongly disagree

   ⬭ Disagree

   ⬭ Neutral

   ⬭ Agree

   ⬭ Strongly agree

6. Please share any other things that you liked or disliked throughout the process of this study.

   _____

   _____

   _____

   _____

   _____

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Biography

Jared L. Stanley graduated from Hempfield Area High School, Greensburg, Pennsylvania, in 2011. He went on to earn his Bachelor of Arts in Early Childhood Education and Special Education from Slippery Rock University. Thereafter, he moved to Alexandria, Virginia where he was a Specialized Instruction Teacher for six years for Alexandria City Public Schools. After his third year of teaching, Jared received his Masters of Education in Special Education, and certificate in Applied Behavior Analysis in 2018. Directly following his Masters, he enrolled in the doctoral program at George Mason University and was hired as a Graduate Research Scholar (GRS) under the supervision of Dr. Pamela Baker in the Department of Special Education and disAbility Research for the first two years of his program.

In 2020, Jared completed his independent fieldwork under the supervision of Dr. Erin Stone and became a Board Certified Behavior Analyst and Licensed Behavior Analyst. Later that summer, he transitioned to a Graduate Research Scholar position under the supervision of Dr. Regina Biggs in the Education Leadership Department. In 2021, he went on to complete his administrative internship and completed his endorsement in Education Leadership K-12. Concurrently, he began as an Adjunct Instructor for the Department of Special Education and disAbility Research. Later in 2021, Jared moved to western Florida, where he was employed as an Administrator on Special Assignment (AOSA) for Escambia County School District in Pensacola, Florida. He now serves as the AOSA overseeing *Hope Horizon at Judy Andrews Center*, a K-12 school for students with Emotional and Behavior Disorders and/or major mental health diagnosis.